National Institute of Dental Research
Division of Intramural Research

Interactions with Scientific Community
1996

Craniofacial Developmental Biology and Regeneration Branch

General Basic and Clinical Research

1. Invited Talks

Kenneth M. Yamada, M.D., Ph.D.

1996 Keystone Conference on Integrins and Signaling Events in Cell Biology and Disease, "Molecular Basis of Fibronectin-Integrin Recognition and Function." Keystone, CO

1996 Keystone Conference on Cell Migration, "Integrin Regulation of Cytoskeletal and Signaling Molecules," Santa Fe, NM.

1996 American Physiological Society Symposium on Integrins in Vascular Biology, "Integrins – An Overview," Washington, DC.

1996 Joint meeting of the American Society for Biochemistry and Molecular Biology, American Society for Investigative Pathology, and the American Association of Immunologists: Symposium on Extracellular Matrix, Integrins, and Cell Growth and Differentiation, "Fibronectin and Integrin Signaling and Cytoskeletal Regulation," New Orleans, LA.

1996 Sixth World Congress for Microcirculation, Symposium on The Extracellular Matrix as a Modulator of Vascular Growth, "Signal Transduction by Integrins," Munich, Germany.

1996 Department of Anatomy, George Washington University Medical Center. "Roles of Integrins in Cell Adhesion Migration, and Signal Transduction." Washington, DC.

1996 Tanabe Research Laboratories, USA, Inc., Founder's Day keynote lecture, "Integrin Regulation of Cytoskeletal and Signaling Molecules," San Diego, CA.

Hynda K. Kleinman, Ph.D.

1996 George Washington University School of Medicine. "Alternative Careers for Scientists." Washington, D.C.

1996 NICHD, NIH. "Role of Basement Membrane in Cell Differentiation." Bethesda, MD.

1996 Berlex, Inc. "Role of Estrogen in Endothelial Cell Differentiation." Richmond, CA.

1996 Neurotumor Club, American Association of Cancer Researchers Annual Meeting. "Basement Membrane and Cell Invasion." Washington, D.C.

1996 Human Genome Science, Inc. "Methods of Assessing Angiogenesis." Gaithersburg, MD.

1996 University of Maryland, Department of Zoology. "Role of Extracellular Matrix in Neuronal Development in Vitro and in Vivo." College Park, MD.

1996 World Congress on In Vitro Biology. "Role of Basement Membrane in Cell Differentiation." San Francisco, CA.

1996 Gordon Research Conference on Reproductive Tract Biology. "Role of Estrogen in Vessel Formation." Plymouth, NH.

1996 American Urological Association Research Conference. "Role of Basement Membranes in Tumor Growth." Houston, TX.

1996 IX International Vascular Biology Meeting, Satellite Symposium on Estrogen and the Blood Vessel Wall. "Estrogen and Endothelial Cell Behavior." Seattle, WA.

1996 International Symposium on Cellular Endocrinology. "Role of Basement Membrane in Cell Differentiation and Tumor Growth." Lake Placid, NY.

1996 Pennsylvania State College, Program in Bioengineering. "Role of Laminin Sequences in Differentiation and Cancer." State College, PA.

1996 SUNY at Albany, Department of Biological Sciences - Inauguration of University President. "Role of Extracellular Matrix in Cell Differentiation." Albany NY.

1996 Internet Symposium on Regulation of Gene Expression and morphogenesis by extracellular Matrix. "Basement Membrane in Cell Differentiation."

Yoshihiko Yamada, Ph.D.

1996 Keystone Symposium on Molecular and Cellular Biology, "Aggrecan: Gene Structure and Disease," Keystone, Colorado.

1996 The 43th Matrix Society Meeting, "Cartilage Genes: Regulation and Disease," Nagoya, Japan.

1996 The 6th International Conference on the Molecular Biology and Pathology. "Feedback Regulation of the Type II Collagen Gene" Philadelphia, Pennsylvania.

1996 Symposium on Molecular Mechanisms of Extracellular Matrix Development. "Oral Genome Project at NIDR" Schloss Ringberg Germany.

Steven K. Akiyama, Ph.D.

1996 International Society for Human Cell and Cell Culture. "Integrins in Cell Adhesion and Signaling." Tokyo, Japan

1996 Smith Kline Beecham Pharmaceutical Company, Lecture Series on Selected Topics in Molecular Medicine. "Mechanisms of Cell Migration." Philadelphia, PA.

1996 Biochemistry Seminar Series, Cornell University. "Fibronectin and Integrins in Cell Adhesion and Signaling." Ithica, NY.

Suzanne Bernier, Ph.D.

1996 Joint Injury and Trauma Research Group, University of Calgary. "Molecular Aspects of Chondrogenesis in Vitro" Calgary, Alberta, Canada.

1996 IBEX Technologies "Microenvironmental Effects on Bone and Cartilage in Vitro" Montreal, Quebec, Canada.

1996 Faculty of Medicine and Oral Health Sciences University of Alberta, "Molecular Aspects of Chondrogenesis in Vitro" Edmonton, Alberta, Canada.

1996 Department of Biology, University of Waterloo. "Molecular Aspects of Cartilage Development in Vitro" Waterloo, Ontario, Canada

Erik H. J. Danen, Ph.D.

1996 Dept. of Physiology, Temple University. "Inhibition of Melanoma Metastasis by the Disintegrin Eristostatin." Philadelphia, PA.

Robert M. Lafrenie, Ph.D.

1996 Northeastern Ontario Regional Cancer Centre, "Integrins in Differentiation and Cancer." Sudbury, Ontario, Canada.

Katherine M. Malinda, Ph.D.

1996 The Third Pan Pacific Connective Tissue Societies Symposium. Thymosins beta4 and alpha1 Promote Migration of Human Umbilical Vein Endothelial Cells." Kona, HI.

Pierre Savagner, Ph.D.

1996 Lawrence Berkeley Laboratory, University of California. "Modulation of Epithelial Cell Cytoskeleton with Dissociation of Desmosomes by Slug, a Zinc Finger Protein." Berkeley, CA.

1996 Fibrogen, Inc. "Modulation of Epithelial Cell Cytoskeleton in a Carcinoma Cell Line by Slug, a Zinc Finger Protein." Sunnyvale, CA.

1996 Faculte de Medecine et Pharmacie, INSERM U-456. "The Zinc-finger Protein Slug Causes Desmosomes Dissociation During FGF Induced Epithelial Mesenchymal Transition in a Carcinoma Cell Line. Rennes, France.

Hideto Watanabe, M.D., Ph.D.

1996 The 28th meeting of the Japanese Society for Connective Tissue Research. "Mouse Cartilage Matrix Deficiency (CMD); Analysis of the Heterozygotes" Kanazawa, Japan.

1996 Gordon Research Conference - Proteoglycans. "Mouse Cartilage Matrix Deficiency; Analysis of the Heterozygotes" Proctor Academy, Andover, NH.

2. Sessions Chaired at Professional Meetings

Kenneth M. Yamada, M.D., Ph.D.

1996 Keystone Symposium on Integrins and Signaling Events in Cell Biology and Disease, "Structural Basis of Integrin Function," Keystone, CO.

Hynda K. Kleinman, Ph.D.

1996 International Vascular Biology Meeting, Satellite Symposium on Estrogen and the Blood Vessel Wall. "Estrogen and Endothelial Cell Behavior." Seattle, WA.

3. Symposia, Meetings or Conferences Organized

Hynda K. Kleinman, Ph.D.

1996 IX International Vascular Biology Meeting, Satellite Symposium on Estrogen and the Blood Vessel Wall. Seattle, WA.

Yoshihiko Yamada, Ph.D.

1996 Internet Symposium III on Extracellular Matrix. Internet.

4. Consultant for Universities or Industry

Hynda K. Kleinman, Ph.D.

1996 Cellular Therapeutics, Inc. Advisory panel for new directions in the company. Providence, RI.

1996 Human Genome Science, Inc. Consultant for Cell Biology Group project on angiogenesis. Year-long activity. Gaithersburg, MD.

1996 Fibrogen, Inc. Advisory committee for funding for projects at Jefferson Medical College. Sunnyvale, CA.

5. Elected Offices

Kenneth M. Yamada, M.D., Ph.D.

1996 Council, International Society for Matrix Biology (1993-present)

Hynda K. Kleinman, Ph.D.

1996 Board member (nationally elected). Association for Women in Science. Washington, D.C.

6. Editorial Responsibilities Other than Reviewing Manuscript

Kenneth M. Yamada, M.D., Ph.D.

1996 Editor, *Journal of Cellular Physiology*

1996 Associate Editor, *The Journal of Cell Biology*

1996 Editorial Board, *Journal of Cell Science*

1996 Editorial Board, *Proceedings of Society for Experimental Biology and Medicine*

1996 Editorial Board, *Molecular Membrane Biology*

1996 Editorial Board, *Cell Adhesion and Communication*

1996 Editorial Board, *Matrix Biology*

1996 Editorial Board, *Cell Structure and Function*

Hynda K. Kleinman, Ph.D.

1996 Editorial Board, *The Journal of Cell Biology.*

1996 Associate Editor, *Journal of the National Cancer Institute.*

1996 Editorial Board, *Journal of Biological Chemistry.*

1996 Editorial Board, *The Catalyst.*

1996 Editorial Board. *International J. Biochemistry & Cell Biology.*

1996 Editorial Board, *FASEB J.*

Steven K. Akiyama, Ph.D.

1996 Reviewing Editor, *In Vitro Cellular and Developmental Biology*

1996 Editorial Advisory Panel, *Molecular Membrane Biology*

7. Professional or Governmental Advisory Capacity

Kenneth M. Yamada, M.D., Ph.D.

1996 Member, NIH Central Tenure Committee

1996 Member, NIH Senior Biomedical Research Service Policy Board

1996 Member, Search Committee for Chief, Laboratory of Physical Biology, National Institute of Arthritis and Musculoskeletal and Skin Diseases, NIH

Hynda K. Kleinman, Ph.D.

1996 NASA Advisory Panel on Microgravity. Houston, TX.

1996 NIH, Fogarty International Center Scholar Advisory Panel.

1996 Pharmacology Research Associate (PRAT) Program Committee, Panel member.

1996 NSF, Juvenile Diabetes Foundation, National Kidney Foundation and Israel Bi-national Fund, Grants Reviewer.

Steven K. Akiyama, Ph. D.

1996 Member, Scientific Advisory Committee for Biochemistry and Endocrinology, The American Cancer Society, Inc.

1996 Ad-hoc Member, Biology-2 Study Section, DRG, NIH

8. Appeared as an Invited Expert

Hynda K. Kleinman, Ph.D.

1996 *The Scientist*, quoted on women's issues at NIH relating to the organization SHER (Self Help for Equal Rights).

1996 *The Catalyst*, quoted on balancing career and family.

1996 *AWIS Magazine*, Association for Women in Science. Quoted and pictured for article on family and career issues.

9. Professional Publications with Outside Co-authors

Kenneth M. Yamada, M.D., Ph.D.

[1]Lash, J.W., Yamada, K.M., and [2]Bellairs, R. Cell surface alterations in embryonic tissues exposed to RGD-peptides: Selective expression. *Int. J. Dev. Biol.* 39:933-938, 1995. ([1]Dept. of Cell and Developmental Biology, School of Medicine, University of Pennsylvania; [2]Dept. of Anatomy and Developmental Biology, University College London, London, U.K.)

Yamada, K.M., and [1]Clark, R.A.F.: Provisional matrix. In: *The Molecular and Cellular Biology of Wound Repair.* R.A.F. Clark, ed., 2nd ed., Plenum Press, 1996, pp. 51-93 ([1]Dept. of Dermatology, Health Sciences Center, State University of New York, Stony Brook, NY)

Yamada, K.M., [1]Gailit, J., and [1]Clark, R.A.F.: Integrins in wound repair. In: *The Molecular and Cellular Biology of Wound Repair.* R.A.F. Clark, ed., 2nd ed., Plenum Press, 1996, pp. 311-338. ([1]Dept. of Dermatology, Health Sciences Center, State University of New York, Stony Brook, NY)

Ozeri, V., [1]Tovi, A., [1]Burstein, I., [1]Natanson-Yaron, S., [2]Caparon, M.G., Yamada, K.M., Akiyama, S.K., [3]Vlodavsky, I., and [1]Hanski, E. A novel two-domain mechanism for Streptococcal adhesion to fibronectin. *EMBO J.* 15:989-998, 1996. ([1]Dept. of Clinical Microbiology, The Hebrew University-Hadassah Medical School, Jerusalem, Israel; [2]Dept. of Molecular Microbiology, Washington University School of Medicine; [3]Dept. of Oncology and Medicine B, Hadassah University Hospital, Jerusalem, Israel)

Lafrenie, R.M., Wahl, L.M., [1]Epstein, J.S., [1]Hewlett, I.K., Yamada, K.M., and [1]Dhawan, S.: HIV-1-Tat modulates monocyte function and alters their interactions with microvessel endothelial cells: A mechanism of HIV pathogenesis. J. Immunol. 156:1638-1645, 1996. ([1]Laboratory of Molecular Virology, Division of Transfusion Transmitted Diseases, Center for Biologics Evaluation and Research, FDA)

Lafrenie, R.M., Wahl, L.M., [1]Epstein, J.S., [1]Hewlett, I.K., Yamada, K.M., and [1]Dhawan, S.: HIV-1 Tat protein promotes chemotaxis and invasive behavior by monocytes. J. Immunol. 157:974-977, 1996. ([1]Laboratory of Molecular Virology, Division of Transfusion Transmitted Diseases, Center for Biologics Evaluation and Research, FDA)

Yamada, K.M., and [1]Geiger, B.: Molecular Interactions in Cell Adhesion Complexes. Curr. Opin. Cell Biol., in press. ([1]Department of Molecualar Cell Biology, The Weizmann Institute of Science, Rehovot, Israel)

Hynda K. Kleinman, Ph.D.

[1]Martin, G.R., [2]Liotta, L.A., and Kleinman, H.K. Interaction of tumor cells with basement membranes and laminin-1. In: The Laminins. Ed. Ekblom p. and Timpl, R. Harwood Academic Publishers, Chur, Switzerland, in press. ([1]Fibrogen, Inc. South San Francisco, [2]NCI,/NIH, Bethesda, MD.)

Weeks, B.S., Burbelo, P.D., [1]Jucker, M., Roque, E., and Kleinman, H.K. Laminin stimulates expression of two mitochondrial proteins during neurite outgrowth. Int. J. Devel 14:365-374. 1996. ([1]NIA/NIH, Bethesda, MD.)

[1]Schnaper, H.W., [2]Kopp, J.B., [1]Poncelet, A.C., [1]Hubchak, S.C., Stettler-Stevenson, W.G., Klottman, P.E., and Kleinman, H.K. Increased expression of extracellular matrix proteins and decreased expression of matrix proteases after serial passage of glomerular mesangial cells. J. Cell Sci. 109:2521-2528. ([1]Department of Pediatrics, Northwestern University School of Medicine, Chicago, IL; [2]NIDDK, NIH, Bethesda, MD; [3]NCI, NIH, Bethesda, MD)

Kim-Schulze, S., [1]McGowan, K.A., [1]Hubhak, S.C., [2]Cid, M.C., [3]Martin, M.B,. Kleinman, H.K., Greene, G.H. and [4]Schnaper, H.W. Expression of a functional estrogen receptor by human coronary artery and umbilical vein endothelial cells. Circulation, 94:1402-1407, 1996. ([1]Department of Pediatrics, Northwestern University School of Medicine, Chicago, IL; [2]Department of Internal Medicine, Fundacio Clinic, Barcelona, Spain; [3]Lombardi Cancer Center, Washington, D.C., [4]Ben May Institute, University of Chicago, Chicago, IL.)

[1]Webber, M.M., [1]Bello, D., Kleinman, H.K., [1]Wartinger, D.D., Williams, D.E., and Rhim, J.S. Prostate specific antigen and androgen receptor induction and characterization of an immortalized adult human prostatic epithelial cell line. Carcinogenesis, 17:1641-1646, 1996. ([1]Michigan State University, E. Lansing, MI.)

[1]Zhao, M., Kleinman, H.K., and [1] Mokotoff, M. Synthesis and activity of partial retro-inverso analogs of the antimetastatic laminin-derived peptide, YIGSR amide. Int. J. Protein Res. in press, 1996. ([1]Department of Pharmacology, University Pittsburgh, Pittsburgh, PA.)

[1]Kim, W.H., [2]Jun, S.H,. Song, S.Y., and Kleinman, H.K. Expression of the 32/67KD laminin receptor in laminin-adhesion-selected human colon cancer cells lines. Int. J. Oncol. in press, 1996. ([1]Department of Pathology,

Seoul National Cancer Center, Seoul, Korea; [2]Department of Surgery, Kyung Pook National University Hospital, Taegu, Korea.)

[1]Grant, D.S., and Kleinman, H.K. Regulation of capillary formation by laminin and other components of the extracellular matrix. In: Regulation of Angiogenesis, ed I.D. Goldberg and E.M. Rosen. Birkhauser; Basel, Switzerland; 317-334, 1996. ([1]Cardeza Foundation, Jefferson Medical College, Philadelphia, PA.

[1]Schnaper, H.W., McGowan, K.A., Hubchak, S.C., [2]Cid, M.C., Kleinman, H.K., and Kim-Schulze, S. Endothelial cells, estrogens, and angiogenesis, In: Proceedings of Schering Workshop on Nitric Oxide, Cytochrome P450 and Gonadal Steroids, ed. U. Habenicht, in press, 1997. ([1]Department of Pediatrics, Northwestern University School of Medicine, Chicago, IL. [2]Department of Internal Medicine, Fundacio Clinic, Barcelona, Spain.)

Yoshihiko Yamada, Ph.D.

[1]Levasseur, F., [2]Ogawa, k., [1]Theret, N., Burbelo, P.D., Yamada, Y., [1]Guillouzo, A., and [1]Clement, B. Expression of laminin gamma1 in cultured hepatocytes involves CTC boxes in LAMC1 promoter. Biochem. J. 313:745, 1996.
([1]Laboratory of Hepatology, U-49, France, [1]Asahi Kasei Inc. Japan,)

[1]Iwamoto, Y., Nomizu, M., Yamada, Y., [1]Ito, Y., [1]Tanaka, K., and [1]Sugioka, Y. Inhibition of angiogenesis, tumor growth and experimental metastasis of human fibrosarcoma matrix cell HT 1080 by a multimeric form of the laminin sequence Tyr-Ile-Ser-Arg (Y-I-G-S-R). Br. J. Cancer, 73:589, 1996. ([1]Department of Orthopaedic Surgery, Kyushu University Medical School)

Nomizu, M., Utani, A., [1]Beck, K., [2]Otaka, A., Roller, P.P., and Yamada, Y. Mechanism of laminin chain assembly into a triple-stranded coiled-coil structure. Biochem. 35:2885, 1996. ([1]Shriner's Hospital, Portland, Oregon, [2]Faculty of Pharmaceutical Chemistry, Kyoto Universty)

[1]Takagi, Y., Nomizu, M., [1]Gullberg, D., [1]MacKrell, A.J., [1]Keene, D.R., Yamada, Y., and [1]Fessler, J.H. Conserved neuron promoting activity in *Drosophila* and vertebrate laminin alpha1. J. Biol. Chem. 271: 18074, 1996. ([1]UCLA, Los Angels, California)

[1]Iehara, N., [1]Takeoka, H., [1]Tsuji, H., Yamada, Y., and [1]Doi, T. Advanced glycosylation end products modulate transcriptional regulations on mesangial cells. Metabolism of Collagens and Collagenous Materials, 118: 141, 1996. ([1]Kyoto University Medical School)

[1]Iehara, N., [1]Takeoka, H., [1]Tsuji, H., [1]Imabayashi, T., [1]Foster, D.N., [1]Strauch, A.R., Yamada, Y., [1]Kita, T., and [1]Doi, T.: Differentiation of smooth muscle phenotypes in mouse mesangial cells. Kidney Int. 49:1330, 1996. ([1]Kyoto University Medical School)

[1]Schulze, B., [1]Mann, K., [1]Pöschl, E., Yamada, Y., and [1]Timpl, R. Structural and functional analysis of the globular domain IVa of the laminin alpha1

chain and its impact on an adjacent RGD site. Biochem. J., 315: 847, 1996. ([1]Max-Planck-Institute, Germany)

[1]Nakahara, H., Nomizu, M., Akiyama, S.K., Yamada, Y., Yeh, Y., and Chen W-T. A mechanism for regulation of melanoma invasion: Ligation of alpha6 beta1 integrin by laminin G peptides. J. Biol. Chem., 271:27221, 1996. ([1]Georgetown University Medical School)

Costell, M., [1]Sasaki, T., [1]Mann, K., Yamada, Y., and [1]Timpl, R.: Structural characterization of recombinant domain II of the basement membrane proteoglycan perlecan. FEBS J. 396:127, 1996. ([1]Max-Planck-Institute, Germany)

Steven K. Akiyama, Ph..D.

[1]Mould, A.P., Akiyama, S.K., and [1]Humphries, M.J. The inhibitory anti-beta 1 monoclonal antibody 13 recognizes an epitope that is attenuated by ligand occupancy: Evidence for allosteric inhibition of integrin function. J. Biol. Chem. 271:20365-20374, 1996. ([1]University of Manchester, Manchester, United Kingdom.

[1]Nakahara, H., Nomizu, M., Akiyama, S.K. Yamada, Y., and [1]Chen W.-T. Laminin G peptide induction and integrin signaling of melanoma invasion. J. Biol. Chem. 271:27221-27224, 1996. ([1]Georgetown University, Washington, D.C.

Katherine M. Malinda, Ph.D.

Malinda, K.M., [1]Fisher, G.W. and [1]Ettensohn, C.A. Four dimensional microscopic analysis of the filopodial behavior of primary mesenchyme cells during gastrulation in the sea urchin embryo. Dev. Biol. 172:552-566, 1995. ([1]Carnegie Mellon University, Pittsburgh, PA.)

[1]Ettensohn, C.A., [1]Guss, K.A., Malinda, K.M. [1]Miller, R.N. and [1]Ruffins, S.W., Cell interactions in the sea urchin embryo. ed. P. Wassarman. Adv. In Develop. Biochem.: 4, 47-97, JAI in press.([1] Carnegie Mellon University, Pittsburgh, PA.)

Maria Lourdes Ponce, Ph.D.

Ponce, M. Lourdes, [1]Cid M.C., Malinda, [2]K.M. Kelly, A., [2]Grant, D.S., [3]Schnaper, H.W. and [4]Kleinman, H.K. Role of estrogen in endothelial cell behavior in estrogen and the vessel wall. ed. G. Rubanyi. Harwood Academic Press, in press. ([1]Department of Internal Medicine, Fundacio Clinic, Barcelona, Spain; [2]Cardeza Foundation, Jefferson Medical College, Philadelphia, PA. [3]Ben May Institute, University of Chicago, Chicago, IL)

Sharon K. Powell, Ph.D.

Powell, S.K,. [1]Rivas, R.J., [2]Rodriguez-Boulan, E., and [3]Hatten, M.E. Development polarity in cerebellar granule neurons in vitro. J. Neurobiol., in press. ([1]University of Maryland, College Park, MD, [2]Cornell University Medical College, Itica, NY., [3]Rockefeller University, NY.)

10. Other

Kenneth M. Yamada, M.D., Ph.D.

1996 NIH Principal Investigator, CRADA with Trevigen, Inc. entitled "Novel Molecular Approaches to Tissue Repair" (1994-1999)

1996 Host to Fogarty Scholar: Professor Benjamin Geiger, Chair, Department of Molecular Cell Biology, The Weizmann Institute of Science, Rehovot, Israel.

1996 Licensing agreement with Becton-Dickinson. Kenneth M. Yamada and Steven K. Akiyama. "Anti-integrin monoclonal antibodies against beta 1 and alpha 5 integrins." (1993 - present).

Hynda K. Kleinman, Ph.D.

1996 Project officer for preparation of basement membrane reagent components. Athens, GA.

1996 Project officer for preparation of basement membrane reagent components, Collaborative Biomedical Inc. Bedford, MA

1996 Regularly mail antisera, basement membrane components (laminin, collagen IV, matrigel.) and peptides to researchers - more than 100 requests per year.

1996 Sponsored three researchers on sabbatical. 1.Dr. Jay Rao, LSU, New Orleans for six months. 2.Dr. Gera Neufeld, Technion Israel for one year. 3.Dr. Sihichai Koontongeu, Thailand for three months.

1996 Filed an invention report on the angiogenic activity of thymosin alpha 1.

1996 Two of existing patents newly licensed:
Matrigel (#4,829,000) to Sigma Chemical Co. St. Louis, MO
Laminin A Peptide (#5,211,657) to Protein Polymer, San Diego, CA.

1996 American Society Cell Biology Abstract Program Committee for annual meeting.

1996 Spoke at Association for Women in Science (AWIS) reception for Women in Neuroscience (WIN) as part of annual meeting of Neuroscience on Careers and Networking.

1996 Westinghouse Talent Search Judge.

1996 AAAS poster judge at annual meeting.

1996 American Heart Association summer advisor for high school (3 students)

1996 Lectured at USUHS on extracellular matrix in Cell Biology Course.

1996 Adjunct Professor at Department of Anatomy and Cell Biology , Georgetown University Medical School, Washington, D.C.

1996 Hired 5 summer students in section.

1996 MIT student advisor. Area college interviews for MIT.

Yoshihiko Yamada, Ph.D.

1996 Host to Fogarty Scholar: Professor Koji Kimata, Director, Institute for Molecular Science of Medicine, Aichi Medical University, Nagakute, Aichi, Japan.

Steven K. Akiyama, Ph.D.

1996 Book Reviewer for *Science Books and Films*

Matthew P. Hoffman, D.D.S., Ph.D.

1996 Gordon Conference on Basement Membrane. Henniker, NH.

Katherine M. Malinda, Ph.D.

1996 Migration Assay Consultant for Molly Sourwine. Pennsylvania State University. State College, PA.
1996 Human Genome, Inc. Migration assays. Rockville, MD.
1996 Fibrogen, Inc. Dr. Mark De Nichilo consulted on raising HUVECs.
1996 FDA - Dr. Giavanna Tosato's Laboratory - assisted with image analysis of tissue samples.
1996 Keystone Conference on Cell Migration, "Thymosin beta4 and alpha1 Promote Migration of Human Umbilical Vein Endothelial Cells and Angiogenesis. Santa Fe, NM.
1996 The Third Pan Pacific Connective Tissue Societies Symposium, "Thymosin beta4 and alpha1 Promote Migration of Human Umbilical Vein Endothelial Cells." Kona, HI.
1996 Mentor - American Heart Association Student Science Program
1996 Mentor - Student Internship.

Sharon K. Powell, Ph.D.

1996 American Society for Cell Biology. "Laminin alpha 1 and alpha2 Chain Peptides Stimulate Neurite Outgrowth by Primary Cerebellar Granule Neurons. Washington, D.C.
1996 NIH Research Festival. Effect of Laminin-1 and laminin-2 on neurite outgrowth by primary cerebllar granul neurons. Bethesda, MD.
1996 Microscopic Imaging: Immunocytochemistry and Image Analysis. Center for Microscopy and Image Analysis, George Washington University, Washington, D.C.
1996 Advisor, Walter Johnson High School research program.
1996 Mentor, NIH-Howard Hughes Medical Institute Sumer Research Program.
1996 Assistant Editor, AWIS Magazine (Association for Women in Science).

Members of CDBRB have provided gifts of DNA clones, monoclonal and polyclonal antibodies, peptides, proteins such as laminin and fibronectin, tissue extracts including matrigel, protocols, and mutant animals to many hundreds of researchers in the U.S. and abroad.

Craniofacial Developmental Biology and Regeneration Branch

Dental Research

1. Invited Talks

Kenneth M. Yamada, M.D., Ph.D.

1996 American Association for the Advancement of Science Symposium: Molecular Medicine Enters the Mouth, "Recent Advances in the Development of the Craniofacial Complex," Baltimore, MD

1996 Keystone Conferences on Tissue Engineering and Wound Repair in Context: Joint Session, "Integrin Control of Cell Movement, Cytoskeleton, and Signaling," Taos, NM

1996 Conference on Salivary Gland Biogenesis and Function, "Cell Adhesion and Migration," Airlie, VA

Steven K. Akiyama, Ph.D.

1996 International Association for Dental Research Symposium on Cell Interactions in Development, "Fibronectin-Integrin Interactions," San Francisco, CA.

Paul H. Krebsbach, D.D.S., Ph.D.

1996 University of Alabama School of Dentistry: "Molecular Characterization of Ameloblastin; a Candidate Gene for an Autosomal Dominant Form of Amelogenesis Imperfecta." Birmingham, AL.

1996 National Institute of Dental Research, Future Careers in Science and Dentistry. A plenary discussant for the NIDR. Bethesda, MD.

1996 National Institute of Dental Research, Summer Student Research Conference. 'Tooth Matrix Gene Cloning and Expression." Bethesda, MD.

1996 University of Michigan School of Dentistry. "Transgenic Analysis of Collagen Genes in Bone and Cartilage." Ann Arbor, MI.

1996 University of Minnesota, Department of Oral Sciences. "Transgenic Analysis of Collagen Genes in Bone and Cartilage." Minneapolis, MN

2. Sessions Chaired at Professional Meeting

Kenneth M. Yamada, M.D., Ph.D.

1996 International Association for Dental Research General Session, Symposium on Cell Interactions in Development, San Francisco, CA

1996 Conference on Salivary Gland Biogenesis and Function, Session on Development, Airlie, VA.

Matthew P. Hoffman, D.D.S.

1996 Co-chaired International Association for Dental Research General Session, Salivary Research Group , Session on Cell Biology. San Francisco, CA.

3. Symposia, Meetings or Conferences Organized

Kenneth M. Yamada, M.D., Ph.D.

1996 Co-organizer, International Association for Dental Research General Session Symposium on Cell Interactions in Development, San Francisco, CA

4. Consultant for Universities or Industry

Hynda K. Kleinman, Ph.D.

1996 NIDR Summer Dental Student Committee and evaluator of applications.

1996 Ad hoc reviewer for grants for NIDR extramural program for Oral Cancer Center.

5. Elected Offices

6. Editorial Responsibilities Other than Reviewing Manuscripts

Kenneth M. Yamada, M.D., Ph.D.

1996 Editorial Board, Journal of Craniofacial Genetics and Developmental Biology.

7. Professional or Governmental Advisory Capacity

8. Appeared as an Invited Expert

9. Professional Publications with Outside Co-authors

Yoshihiko Yamada, Ph.D.

Lee, S-K., Krebsbach, P.H., Matsuki, Y., [1]Nanci, A., Yamada, K.M, and Yamada, Y. Developmental expression of ameloblastin in rat incisors and human tooth germs. Int. J. Dev. Biol., 40:1141-1150, 1996. ([1]University of Montreal Faculty of Dentistry)

10. Other

Kenneth M. Yamada, M.D., Ph.D.

1996 Hosted Dr. Andrew Lumsden, United Medical and Dental School of the University of London in association with Kreshover lectureship, including arranging meetings with members of other institutes.

1996 Project Officer, contract entitled "Production of Antibodies to New Craniofacial Genes Relevant to Anomalies and Oral Cancers," University of Pennsylvania Dental School, Philadelphia, PA.

1996 Advisor to Summer Dental Student program participant Ketan Sukkawala, University of Texas Health Science Center at San Antonio Dental School.

Yamada, K.M., In: Studies in Stomatology and Craniofacial Biology on the Threshold of the 21st Century (M.M. Cohen, Jr. and B.J. Baum, eds.), "Cell-matrix interaction during development." IOS Press, in press, 1996.

Yoshihiko Yamada, Ph.D.

1996 Collaboration with Dr. Antonio Nanci, University of Montreal Faculty of Dentistry, Developmental expression of ameloblastin in teeth.

1996 Collaboration with Dr. Malcolm Snead, University of Southern California School of Dentistry, Interaction of enamel-specific proteins.

1996 Collaboration with Dr. Margarita Zeichner-David, University of Southern California School of Dentistry, Los Angeles, CA, Functions of ameloblastin in amelogenesis.

1996 Collaboration with Dr. Mary MacDougall, University of Texas Health Center at San Antonio School of Dentistry, San Antonio, Texas, Genetic defects of ameloblastin in Amelogenesis Imperfecta.

Matthew P. Hoffman, D.D.S., Ph.D.

1996 Conference on Salivary Gland Biogenesis and Function, Session on Development, Airlie, VA.

1996 International Association for Dental Research. TGF beta2 and beta3 isoforms perdominate in acinar differentiation and in submandibular gland development. Abstract #182. San Francisco, CA.

Paul H. Krebsbach, D.D.S., Ph.D.

Simmons, D., Gu, T.T., Luan, X., Frei, G., Krebsbach, P.H., MacDougall, M.: Identification and Temporal Expression of cDNA for Murine Ameloblastin. J. Dent. Res. Vol. 75, Abstract #73, 1996.

1996 Texas Mineralized Tissues Society. "Identification and Characterization of Human Ameloblastin CDNA." Dallas, TX.

Members of CDBRB freely provide gifts of DNA clones, monoclonal and polyclonal antibodies, peptides, proteins, tissue extracts, protocols, and mutant animals to dental researchers throughout the world.

Craniofacial and Skeletal Diseases Branch

General Basic and Clinical Research

1 Invited Talks

Eanes, Edward D. Ph.D.

"Effects of Fluoride on Biological and Synthetic Apatites" at the Forsyth Dental Center, Boston, MA, June 6, 1996.

Fisher, Larry Ph.D.

"Past, Present and Future of Non-Collagenous Bone Proteins" at the Heinz A. Lowenstam Workshop on Biomineralization, Weizmann Institute of Science, Rehovot, Israel, February 15-22, 1996.

Fowler, Bruce

"Characterization of calcium phosphate substances in coatings on prosthetic implants". Poster presented at the 1996 Gordon Research Conference on Biomineralization, Plymouth, NH.

Gehron Robey, Pamela Ph.D.

"Bone Matrix Proteins" at the 10th International Calcified Tissue Workshop, Jerusalem, Israel, March 8-15, 1996.
"New Frontiers in Bone Biology" at the University of Virginia, Charlottesville, VA, April 11-12, 1996.
"Biochemical characterization of marrow stromal fibroblasts" at the 6th International Conference on the Molecular Biology and Pathology of Matrix, Philadelphia, PA, June 16-19, 1996
"Biochemical Markers of Bone" at the American Association for Clinical Chemistry, Chicago, IL, June 31, 1996.
"The Biology of Bone Matrix" at the Department of Experimental Medicine, University of L'Aquila, Italy, June, 1996.
"The Role of In Vitro Analysis in Characterization of Brittle Bone Diseases" at the Dompe Biotechnology Center, L'Aquila, Italy, June, 1996.
"Characterization of Marrow Stromal Fibroblasts in Health and Disease" at the Department of Experimental Medicine and Pathology, University of Rome, Italy, June, 1996.
"Meet the Professor - Bone Matrix Proteins" at the American Society for Bone and Mineral Research, Seattle, WA, September, 1996.
"Biology of Bone Formation" at the National Institute of Heart, Lung and Blood, Pulmonary Seminary, October 23, 1996.

"Bone Matrix Proteins and Metastasis" at the Prout's Neck Meeting on Prostate Cancer and Bone Metastasis, Prouts Neck, ME, October 17-20, 1996.

"Biochemical Characterization of Marrow and Stromal Fibroblasts" at Osiris, Baltimore, MD, November 7, 1996.

"Biochemical Characterization of Osteoprogenitors From Marrow" at the University of Genova, Geneva, Italy, December 4-5, 1996.

Luyten, Frank, M.D.

"Growth Factors/Morphogens in Synovial Joints", at the International Symposium on the Biology of the Synovial Joint, University of Wales, Cardiff, United Kingdom, June 29-July 2, 1996.

"Morphogens in Skeletal Development and Repair" at the 21st Symposium of the European Society for Osteoarthrology, Ghent, Belgium, September 25-28, 1996.

Mankani, Mahesh

"Use of cultured marrow stromal fibroblasts in the pre-fabrication of bone flaps in mice" at the Plastic Surgery Research Council Annual Meeting, June, 1996.

Xu, Tianshun

"Towards Understanding the Functions of biglycan in the skeleton" Poster presentation at the 6th International Conference on the Molecular Biology and Pathology of Matrix, Philadelphia, PA, June 16-19, 1996.

Young, Marian Ph.D.

"Bones and Teeth: A Molecular Viewpoint" at the Basset Hospital, Cooperstown, NY, June 1, 1996.

2. Sessions Chaired at Professional Meetings

Fisher, Larry Ph.D.

Chair, "Matrix Macromolecules" at the Lowenstam Workshop on Biomeralization, Rehovot, Israel, February 15-22, 1996.

Gehron Robey, Pamela Ph.D.

Co-Chair, Bone Microenvironment Symposium, American Society for Bone and Mineral Research, Seattle, WA.

Co-Chair, Working Group on Aging and the Human Skeleton, American Society for Bone and Mineral Research, Seattle, WA, September, 1996.

Young, Marian Ph.D.

Co-Chair, Bone Cartilage and Matrix and Molecular Biology and Pathology Bone Working Group, American Soceity of Bone and Mineral Research, September 10, 1996.

3. Symposia, Meeting or Conferences Organized

Gehron Robey, Pamela Ph.D.

"Working Group on Aging and the Human Skeleton, Co-Chair, American Society for Bone and Mineral Research, Seattle, WA, September, 1996

"Bone Microenvironment", American Society for Bone and Mineral Research, Seattle, WA, September, 1996.

Young, Marian Ph.D.

Gordon Conference on Bones and Teeth, 1997.

4. Consultant for Universities or Industry

Gehron Robey, Pamela Ph.D.

Consultant, Hybritech, Inc., San Diego, CA.

Luyten, Frank M.D.

CRADA with Creative BioMolecules, Inc., Hopkinton, MA

Young, Marian Ph.D.

Co-Investigator, Binational Grant funded by United States Israel Binational Science Foundation with Dani Deutsch, Professor, Department of Oral Biology, Dental Research Unit, Hebrew University, Hadassah, Faculty of Dental Medicine, Jerusalem.

5. Elected Offices - None

6. Editorial Responsibilities other than Reviewing Manuscripts

Eanes, Edward D, Ph.D.

Editorial Board, Calcified Tissue International, 1989 to present.

Gehron Robey, Pamela Ph.D.

Editorial Board, Endocrinology.
Editorial Board, Journal of Bone and Mineral Research.
Editorial Board, Bone.
Editorial Board, Japanese Journal of Bone and Mineral Metabolism.

Young, Marian Ph.D.

Editoral Board, Calcified Tissue International, 1994 to present.

7. Professional or Governmental Advisory Capacity

Gehron Robey, Pamela Ph.D.

External Advisory Board, UAMS Center for Osteoporosis and Metabolic Bone Diseases, Little Rock, Arkansas, Board Member, February, 1996.

Charter Member, Oral Biology and Medicine Study Section 2.

Scientific Advisory Board, National Osteoporosis Foundation.

8. Appeared as an Invited Expert - None

9. Professional Publications with Outside Authors

Eanes, Edward D Ph.D.

Skrtic D, *Eidelman N, **Golomb G, **Breuer E, Eanes ED In vitro inhibition of membrane-mediated calcification by novel phosphonates, Calcif Tissue Int 58:347-354, 1996. *American Dental Association Health Foundation, Paffenbarger Research Center, NIST, Gaithersburg, MD and **The Hebrew University of Jerusalem, Israel.

Fisher, Larry Ph.D.

Bernstein EF, Chen YQ, Kopp JB, Fisher LW, Brown DB, Hahn PJ, Robey FA, Lakkakorpi J, Uitto J. Long-term sun-exposure alters the collagen of the papillary dermis: comparison of sun-protected and photaged skin by Northern analysis, immunohistochemical staining, and confocal laser scanning microscopy, J Amer Acad Dermatol 34:209-218, 1996. Dept. of Dermatology, Jefferson University, Philadelphia, PA.

Crosby AH, Luy MS, Lin K, McBride OW, Kerr JM, Aplin HM, Fisher LW, Young MF, Kozak CA, Dixon MJ, Mapping of the human and mouse bone sialoprotein and osteopontin loci. Mamm Genome 7:149-151, 1996. Department of Dental Medicine and Surgery, University of Manchester, UK; NIAID and NCI, NIH, Bethesda, MD.

Bellahcéne A, Antoine N, Clausse N, Tagliabue E, Fisher LW, Kerr JM, Jarés P, Castronovo V, Detection of bone sialoprotein in human breast cancer tissue and cell lines at both protein and messenger ribonucleic acid levels. Lab Invest 75:203-210, 1996. Metastasis Research Laboratory, University of Liege, Gelgium, Instituto dei Tumori, Milan, Italy; Laboratory of Pathology, Barcelona, Spain.

Fowler, Bruce O.

*Edelman N, Fowler BO, **Joshi R, **Levy RJ. Characterization of calcified deposits on polyurethane implants by FTIR microscopy. J Dent Res 75 (Special Issue) Abst. No. 574, 1996. *American Dental Association Health Foundation, Paffenbarger Research Center, NIST, Gaithersburg, MD, ** The University of Michigan Medical School, Ann Arbor, MI.

Gehron Robey, Pamela Ph.D.

Riminucci M, Fisher LW, Gehron Robey P, Bianco P (Rome, Italy) The biology of bone sialoprotein in bone formation and disease. Proc. Italian Mineralized Tissue Society, Siena, Italy, In Press.

Kuznetsov SA, Krebsbach PH, Emmons RVB (NHLBI), Rowe, DW (University of Connecticut), Creation of a new bone and hematopoietic microenvironment in vivo by cultured marrow stromal fibroblasts: comparison of mouse and human models. In Proceedings of the Keystone Conference. 1996, Greenberger, J., ed.. In Press.

Gehron Robey P. Bianco P (Rome, Italy). The collagenous and non-collagenous proteins of cells in the osteoblastic lineage. In: (Zaidi, M. ed.) The Molecular and Cell Biology of Bone, JAI Press, Greenwich, CT, In Press.

van der Pluijm G (Leiden, The Netherlands), Vloedgraven H, Ivanov B, Robey FA, Grzesik WJ, Gehron Robey P, Papapoulos S, Lowik CWGM. Bone-sialoprotein peptide derivatives are potent inhibitors of breast cancer cell adhesions to bone. Cancer Res 56:1948-1955, 1996.

Gehron Robey P, Fedarko NS. Osteogenesis imperfecta, collagen and non-collagenous proteins. Clin Rev Orthopaed, In Press.

Krebsbach PH, Kuznetsov SA, Satomura K, Emmons RVB (NHLBI), Rowe DA (University of Connecticut), Gehron Robey P, Bone formation in vivo: Comparison of osteogenesis by transplanted mouse and human marrow stromal fibroblasts. Transplantation, In press.

Kuznetsov, Sergei Ph.D.

"Creation of a new hematopoietic microenvironment in vivo by cultured marrow stromal fibroblasts: comparison of mouse and human models" poster presentation at the Keystone Symposium "The Hematopoietic Microenvironment", February 16-22, Taos, NM.

Luyten, Frank M.D.

Basic N, Basic V, Bulic K, Grigic M, Kleinman HK, Luyten FP, Vukicevic S, TGF-B from basement membrane matrigel stimulates the chrondrogenic phenotype in osteoblastic cells derived from fetal rat

calvaria. J. Bone Miner Res 11:384-391, 1996. Collaboration with the Dept. of Anatomy, Zagreb Medical School, Zagreb, Croatia.

Hoang B, *Moos M, Vukicevic S, Luyten FP, Structures and expression pattern of Frzb, a novel frizzled related protein, suggest a role in skeletal morphogenesis, J Biol Chem 271:26131-26137. *FDA-CBER.

Vukicevic S, Kopp J, Luyten FP, Sampath TK, Induction of nephrogenic mesenchyme by osteogenic protein-1, Proc Natl Acad Sci USA, 93:9021-9026, 1996. Collaborative project with Zagreb Medical School, NIDDK and Creative BioMolecules, Inc., Hopkinton, MA.

Thomas JT, Lin K, Nandedkar M, McBride W, Camargo M, Cervenka J, Luyten FP, A Human chondrodysplasia (Hunter-Thompson type) due to a mutation in a cartilage-derived TGF-B superfamily member, Nature Genetics 12:315-317, 1996.

Francis-West PH, Richardson MK, Bell E, Chen P, Luyten FP, Adelfattah A, Barlow AJ, Brickell PM, Wolpert L, Arher CW, The effect of overexpression of BMPs and GDF-5 on the development of chick limb skeletal elements. Ann NY Acad Sci 785:254-255, 1996. Collaboration with the Department of Craniofacial Development, UMDS, Guy's Hospital, London, UK.

Satomura, Kazuhito Ph.D.

Gotoh, Fujisawa K, Satomura K, Nagayama M. Osteogenesis by human osteoblastic cells in diffusion chamber in vivo, Calcif Tissue Int 56(3):246-251, 1995.

Miyamoto Y, Satomura K, Rikimaru K, Hayashi Y. Desmoplastic fibroma of the mandible associated with tuberous sclerosis. J Oral Pathol Med 24(2):93-96, 1995.

Thomas, John T.

Thomas JT, Lin K, Nandedkar M, *Camargo M, **Cervenka J, Luyten FP, A Human chondrodysplasia (Hunter-Thompson type) due to a mutation in a cartilage-derived TGF-B superfamily member, Nature Genetics 12:315-317, 1996. *Dept. of Biology, University of Antioquia, Medellin, Columbia and **Department of Oral Sciences, Dental School, University of Minnesota, Minneapolis, MN.

Lin K, Thomas JT, *McBride OW, Luyten FP, Assignment of a new TGF-b superfamily member, human cartilage-derived morphogenetic protein-1 to chromosome 20q11.2, Genomics 34:150-151, 1996. *Dept. of Biochemistry, NCI, NIH.

*Salo LA, **Hoyland J, **Ayad S, **Kielty CM, **Freemont A, *Pirttiniemi P, *Kantomaa T, **Grant ME, Thomas JT, The expression of types X and VI collagen and fibrillin in rat mandibular condylar. Response to mastication forces. Acta Odontol Scand 54:295-302, 1996. *Institute of Dentistry, University of Oulu, Finland, **Departments of Biochemistry and Molecular Biology and Rheumatology, University of Manchester, UK.

Chambers D. Thomas JT, Boam D, Wallis GA, Grant ME, Boot-Handford BP, Sequence elements within intron 1 of the human collagen X gene do not contribute to the regulation of gene expression. Ann NY Acad Sci 785:227-230, 1996. Collaboration with Departments of Biochemistry and Molecular Biology, University of Manchester, UK.

Young, Marian Ph.D.

***Crosby AH, **Lyu MS, *Lin K, *McBride OW, Kerr JM, ***Alpin HM, Fisher LW, Young MF, **Kozak CA, ***Dixon MJ. Mapping of the human and mouse bone sialoprotein and osteopontin loci. Mammalian Genome 7:149-151, 1996. *NCI, **NIAID, ***University of Manchester School of Biological Sciences and Departments of Dental Medicine and Surgery, Manchester UK.

Ibaraki K, *Kozak CA, Wewer UM, Young MF. Mouse tetranectin: cDNA analysis, mRNA expression, chromosomal mapping and reverse transcription polymerase chain reaction analysis. Mammalian Genome 6:693-696, 1995. *NIAID

10. Other

Eanes, Edward D. Ph.D.

Attended the Gordon Research Conference on Biomineralization and presented a poster on the "Effect of fluoride on bone mineral apatite-synthetic studies", Plymouth, NH.

Fisher, Larry Ph.D.

Have sent more than 300 reagents (antisera, CDNA probes or proteins) to more than 120 laboratories around the world (~15% of which were dental oral biology programs).

Gehron Robey, Pamela Ph.D.

Invention Report, "Human Bone Formation in Immunosuppressed Mice".

Mankani, Mahesh

Served on the American Society of Plastic and Reconstructive Surgery's Young Physician's Committee, 1996.

Craniofacial and Skeletal Diseases Branch

Dental Research

1. Invited Talks

Gehron Robey, Pamela Ph.D.

"Scientific frontiers in clinical dentistry, NIH, June 13, 1996.

Luyten, Frank M.D.

"Scientific basis for the regeneration of joint surfaces" at the NIH Technology Assessment Conference, Bethesda, MD, April 29 - May 1, 1996.

"Bone Morphogenetic Proteins in Human Skeletal Disorders" at the Department of Craniofacial Development, UMDS, Guy's Hospital, London, UK, June 29, 1996.

Satomura, Kazuhito Ph.D.

"Protein tyrosine kiaznase expression in human bone marrow stromal fibroblasts" at the 74th General Session and Exhibition of the IADR, March, 1996, San Francisco, CA.

Young, Marian Ph.D.

"Structure and Regulation of the Matrix Proteins in the Hard Tissue" at the Department of Periodontics, The University of Michigan School of Dentistry.

2. Sessions Oral Health Related Meetings

Young, Marian Ph.D.

Chair, "Bone Cartilage and Matrix" and Molecular Biology and Pathology Bone Working Group, American Society of Bone and Mineral Research, September, 1996.

3. Symposia, Meetings or Conferences Organized

Young, Marian Ph.D.

Chair, Gordon Conference on Bones and Teeth, 1997, organized speakers and funding for conference.

4. Consultant for Universities or Industry

Gehron Robey, Pamela Ph.D.

Panel Member, Biomimetics, Rockville, MD, September 24-26, 1996.

Young, Marian Ph.D.

Co-Investigator on a Binational grant funded by the United States Israel Binational Science Foundation with Dani Deutsch, Professor, Dept. of Oral Biology, Dental Research Unit, Hebrew University, Hadassah, Jerusalem, Israel.

5. Elected Offices - None

6. Editorial Responsibilities other than Reviewing Manuscripts

Gehron Robey, Pamela Ph.D.

Editorial Board, Journal of Dental Research

Young, Marian Ph.D.

Editorial Board, Calcified Tissue International

7. Professional or Governmental Advisory Capacity

Gehron Robey, Pamela Ph.D.

Oral Biology and Medicine Study Section 2, Charter Member

8. Appeared as an Invited Expert

9. Professional Publications with Outside Authors

Eanes, David E. Ph.D.

*Antonucci JM, Skrtic D, Eanes ED. Bioactive polymeric dental materials based on amorphous calcium phosphate-effect of coupling agents. In: Hydrogels and Biodegradable Polymers for Bioapplications (Ottenbrite R, Huang S, Park K., eds). ACS Symposium series 627, American Chemical Society, Washington, D.C. 1996, pp243-254. *NIST, NIH, Gaithersburg, MD.

Skrtic D, Hailer AW, *Takagi S, **Antonucci JM, Eanes ED. Quantitative assessment of the efficacy of amorphous calcium phosphate/methacrylate composites in remineralizing caries-like lesions artificially produced in bovine enamel. J Dent Res 75:1679-1686, 1996. *ADAHF Paffenbarger Research Center, NIST, Gaithersburg, **NIST, Gaithersburg, MD.

Satomura, Kazuhito Ph.D.

Miyamoto Y, Satomura K, Rikimaru K, Hayashi Y. Desmoplastic fibroma of the mandible associated with tuberous sclerosis. J Oral Pathol Med 24(2):93-96, 1995.

Thomas, John T. Ph.D.

Salo, LA, Hoyland J, Ayad S, Kielty CM, Freemont A, Pirttiniemi P, Kantomaa T, Grant ME, Thomas JT. The expression of types X and VI collagen and fibrillin in rat mandibular condylar cartilage. Response to mastication forces. Acta Odontol Scand 54:295-302, 1996. Collaboration with Institute of Dentistry, University of Oulu, Finland and University of Manchester, UK.

Young, Marian Ph.D.

***Crosby AH, **Lyu MS, *Lin K, *McBride OW, Kerr JM, ***Alpin HM, Fisher LW, Young MF, **Kozak CA, ***Dixon MJ. Mapping of the human and mouse bone sialoprotein and osteopontin loci. Mammalian Genome 7:149-151, 1996. *NCI, **NIAID, ***University of Manchester School of Biological Sciences and Departments of Dental Medicine and Surgery, Manchester UK.

Ibaraki K, *Kozak CA, **Wewer UM, Young MF. Mouse tetranectin: cDNA analysis, mRNA expression, chromosomal mapping and reverse transcription polymerase chain reaction analysis. Mammalian Genome 6:693-696, 1995. *NIAID, **University Institute of Pathological Anatomy, Copenhagen, Denmark.

*Hirst KL, O'Connor K, Young MF, *Dixon MJ. Cloning and expression analysis of the bovine dentil matrix acidic phosphoprotein gene. J Dental Res, 1995, in press. *University of Manchester, School of Biological Sciences and Departments of Dental Medicine and Surgery, Manchester, UK.

10. Other

Eanes, Edward D. Ph.D.

April 16, 1996; Patent #5,508,342 issued on "Polymeric Amorphous Calcium Phosphate Compositions" (with JM Antonucci, D Skrtic, NIST, Gaithersburg, MD).

July 29, 1996; Member, Special Emphasis Panel, Oral Biology and Medicine Study Section, DRG, NIH.

Young, Marian Ph.D.

"The regulation of Transcription of Bone Sialoprotein in mineralized tissue". Collaboration with Renny Franceschi, Department of Periodontics, The University of Michigan School of Dentistry.

"The use of adenovirus for study of hard tissue regulation and function". Collaboration with Brian O'Connell, NIDR.

Gene Therapy and Therapeutics Branch

General Basic and Clinical Research

1. Invited Talks

Bruce J. Baum, D.M.D., Ph.D.

1996	"Possible role of IFN-γ in the pathogenesis of Sjogren's syndrome", at Pulmonary-Critical Care Medicine Branch, NHLBI
1996	"Adenovirus-medicated gene transfer to salivary glands", at AAAS meeting, Baltimore, MD
1996	"Salivary glands- a convenient and useful target for gene transfer", at Clinical Center Grand Rounds, NIH
1996	"Adenoviral-mediated gene transfer to salivary glands", at Dept. of Otolaryngology, Stanford University, Palo Alto, CA
1996	"Adenovirus-mediated gene transfer to salivary glands: a biological and clinical tool", at Symposium honoring J.A. Young, University of Sydney, Australia
1996	"Use of adenoviruses to study biological and clinical problems of salivary glands", at Dept. of Physiology, Columbia University, New York, NY
1996	"Gene transfer", at meeting of Ectodermal Dysplasia Foundation, Bethesda, MD

Philip C. Fox, D.D.S.

1996	" Pavlov to pilocarpine...management of xerostomia" at American Cancer Society, Annual Meeting, San Diego, CA
1996	" Taking charge of your Sjögren's syndrome" at Sjögren's Syndrome Foundation, Washington, DC Chapter Meeting
1996	"Cytokine expression in labial minor salivary glands in Sjögren's syndrome" at Head and Neck Biology Interest Group, NIH
1996	"Acquired salivary gland dysfunction: drugs, radiation" at Conference on Salivary Gland Biogenesis and Function, Airlie, VA
1996	"Cytokine mRNA expression in labial salivary glands and cytokine secretion in parotid saliva in Sjögren's syndrome" at Second International Conference on the Lacrimal Gland, Tear Film and Dry Eye Syndromes: Basic Science and Clinical Relevance, Bermuda

Indu S. Ambudkar, Ph.D.

1996	"The calcium influx mechanism in salivary epithelial cells" at Anna University, India.

R. James Turner

1996	"Regulation and function of the exocrine Na/K/2Cl cotransporter", at NIH Research Festival Workshop "Signal transduction: Signaling and regulation in Epithelia", Bethesda, MD
1996	"The Na-(K)-Cl cotransporter family, sequence comparison and analysis" at "Fourth international symposium on exocrine secretion", Bowral, Australia.
1996	"Fluid secretion in salivary glands", at Tokyo Dental College, Chiba, Japan.
1996,	"Functional and molecular characterization of the salivary Na/K/Cl cotransporter", at the workshop entitled "Concerted mechanisms of transporters for exocrine secretion", Okazaki, Japan.
1996	"Fluid secretion in salivary glands", at Health Sciences University of Hokkaido, Tobetsu, Japan.

2. Sessions Chaired at Professional Meetings

Bruce J. Baum, D.M.D., Ph.D.

1996	Chaired session, "Clinical Issues", Conference on Salivary Gland Biogenesis and Function, Airlie, VA

3. Symposia, Meetings or Conferences Organized

R. James Turner

1996	Organized workshop "Signal transduction: Signaling and regulation in Epithelia" at NIH Research Festival.

4. Consultant for Universities or Industry

Brian O'Connell, B.D.S., Ph.D.

1996	Medical University of South Carolina, Department of Biochemistry and Molecular Biology. Consultant on RO1 submission for Dr. Lee Chao. Provide information, reagents and design experiments for Dr. Lee Chao and Dr. Julie Chao.

1996	University of Muenster, Germany, Institute of Physiological Chemistry and Pathobiochemistry. Provide support and advice for gene transfer program, Dr Hans Kresse
1996	University of Sydney, Australia, Department of Physiology. Provide advice and reagents, Dr. Philip Poronnik

5. Elected Offices

6. Editorial responsibilities other than reviewing manuscripts

Bruce J. Baum, D.M.D., Ph.D.

1996	Editorial Board, Dysphagia

7. Professional or Governmental Advisory Capacity

Bruce J. Baum, D.M.D., Ph.D.

1996	Member, NIH Committee on Scientific Conduct and Ethics
1996	Member, Board of Tutors, NIH Clinical Research Training Program

Philip C. Fox, D.D.S.

1996	Member, NIH Clinical Center Medical Executive Committee
1996	Chair, Committee on Training and Development, NIH Clinical Research Special Interest Group
1996	Member, Inter-Agency Working Group on Thalidomide
1996	Member, International Advisory Committee, Conference on Immunopathology of Mucous Membranes and Exocrine Glands, Norway

Indu S. Ambudkar, Ph.D.

1996	Ad hoc member Study Section: Oral Biology and Medicine

8. Appeared as an invited expert

Philip C. Fox, D.D.S.

1996	Sjögren's Syndrome Foundation, Press Conference, New York, NY Presentation: "Oral aspects of Sjögren's syndrome"

1996	Sjögren's Syndrome Foundation, Annual Meeting, Patient Symposium Participant: Meet the Experts Q & A Session
1996	Interviewed numerous times throughout the year by print media and radio on topic of dry mouth, Sjögren's syndrome, and salivary transmission/prevention of disease.

9. Professional publications with outside co-authors

Bruce J. Baum, D.M.D., Ph.D.

Delporte, C, O'Connell, BC, He, X, Ambudkar, IS, Agre, P*, and Baum BJ. Adenovirus-mediated expression of aquaporin-5 in epithelial cells. J Biol Chem 271:22070-22075, 1996. *(Dept. of Physiological Chemistry, Johns Hopkins University)

Brian O'Connell, B.D.S., Ph.D.

Wu, A.J., Chen, Z.J., §Tsokos, M., O'Connell, B.C., Ambudkar, I.S. and Baum, B.J. Interferon-γ induced cell death in a cultured human salivary gland cell line. J. Cell Physiol. 167, 297-304, 1996, § (Laboratory of Pathology, National Cancer Institute, NIH)

Philip C. Fox, D.D.S.

Baum, B.J., Fox, P.C., and Neumann, R.D.* The Salivary Glands, in Nuclear Medicine. Editors, J.C. Harbert, W.C. Eckelman, and R.D.Neumann. New York: Thieme Medical Publishers, 1996, pp. 439-444. *(Nuclear Medicine Dept, CC, NIH).

Lockhart, P.B. *, Fox, P.C., Gentry, A.C.*, Acharya, R.*, and Norton, H.J. Pilot study of controlled release pilocarpine in normal subjects. Oral Surg. Oral Med. Oral Pathol. 82:517-524, 1996, *(Carolinas Medical Center, Charlotte, NC).

Fox, P.C., and* Speight, P.M. Current concepts of autoimmune exocrinopathy: Immunologic mechanisms in the salivary pathology of Sjögren's syndrome. Crit. Rev. Oral Biol. Med. 7:144-158, 1996, *(Eastman Dental Institute, Landon , UK).

Indu S. Ambudkar, Ph.D.

Horn, VJ*; Redman, RS*, and Ambudkar, IS. Response to rat salivary glands to mastication of a pelleted Vitamin A-deficient diet., Arch Oral Biol. 41:769-777 1996, *(VA Medical Center, Washington, DC)

R. James Turner

Moran*, A., and Turner, R.J. Evidence that quantal Ca^{2+} release from HSG cells is not due to "all-or-none" release from discrete Ca^{2+} stores with differing sensitivities to IP_3. Mol. Cell. Biochem. 158:53-56, 1996.* (Dept. of Physiology, Ben Gurion University, Beer-Sheva, Israel)

Kitsukawa*, Y., Turner, R.J. and Jensen*, R.T. Gastric chief cells possess NK_1 receptors which mediate pepsinogen secretion and are regulated by agents that increase cAMP and phospholipase C. Biochim. Biophys. Acta 1312:105-116, 1996. * (NIDDK)

Tanimura*, A. and Turner, R.J. IP_3-dependent oscillations of luminal $[Ca^{2+}]$ in permeabilized HSY cells. J. Biol. Chem. 271:30904-30908, 1996. * (Health Sciences University of Hokkaido, Tobetsu, Japan)

10. Other

Brian O'Connell, B.D.S., Ph.D.

1996	Poster presentation, Genomic Science Series Conference on Gene Therapy,. "Salivary Glands as a Potential Target for Systemic Delivery of Therapeutic Protein", Hilton Head, SC.
1996	Poster presentation, Gene Therapy Conference, Bethesda, MD
1996	Invited participant to NIDR Workshop on Biomimetics, Tissue Engineering and Biomaterials. Rockville, MD.

Indu S. Ambudkar, Ph.D.

Co-investigator in US-Israeli Bi-National Science Foundation Grant: "Irradiation-induced damage to salivary glands". Co-PI: Professor M. Chevion, Hebrew University, Hadassah Medical School, Israel.

11. Current collaborators

Bruce J. Baum, D.M.D., Ph.D.

Current Extramural collaborations include P. Agre (Johns Hopkins), M. Donowitz (Johns Hopkins), R. Redman (Washington VAMC), A. Parlow (UCLA- Harbor General), F. Oppenheim (Boston Univ), P. Poronnik (Univ. of Sydney, Australia)
Current NIH collaborations include T. Walsh (NCI), R. Kotin (NHLBI), L. Nieman (NICHD), and R. Neumann (CC)

Brian O'Connell, B.D.S., Ph.D.

Current Extramural collaborations include J. Chao,(Medical University of South Carolina), H. Kresse (Institute of Physiological Chemistry and Pathobiochemistry, Germany), F. Oppenheim (Boston University), R. Redman (VA Medical Center).
Current NIH collaborations include L. Eiden (NIMH), J. Erickson (NIMH), C. Filburn (NIA), T. Walsh (NCI)

Philip C. Fox, D.D.S.

Current extramural collaborations include, J. Scott (University of Liverpool), C. Brando (Temple University), I. Al-Hashimi (Baylor University,), E. Benjavongculchai (Bangkok, Thailand), R. Gniewek (BioRad, Hercules, CA), R. Schumacher (Univerity of Pennsylvania), C. McArthur (University of Missouri), P. Lockhart (Carolinas Medical Center)
Current NIH collaborations include, J. Klippel (NIAMS), S. Pillemer (NIAMS), L. Nieman (NICHD), J. Smith (NEI), M. Datiles (NEI), A.Gandjbakhche (DCRT), R. Bonner (BEIP, NCRR)

Indu S. Ambudkar, Ph.D.

Current collaborations include: S. Ambudkar (NCI); E. Rojas and I. Atwater (NIDDK); N. Arispe (USUHS); X. Zhu and L. Birnbaumer (UCLA); M. Chevion (Hebrew University, Jerusalem); R. Redman (VA Medical Center); T. Lockwich (Colgate University).

R. James Turner

Current collaborations include A. Tanimura and Y. Tojyo (Health Sciences University of Hokkaido, Tobetsu, Japan) and K. Kurihara (Meikai University, Saitima, Japan).

Gene Therapy and Therapeutics Branch

Dental Research

1. Invited Talks

Bruce J. Baum, D.M.D., Ph.D.

1996	"Salivary glands: a convenient and useful model for gene transfer", at University of Washington, Seattle
1996	"Aging and oral health", at Tokyo Dental College "Use of adenovirus to transfer genes to salivary glands", at Tokyo Dental College "Future of dental education", at Tokyo Dental College "Physiology of salivary gland secretion", at Tokyo Dental College
1996	"Salivary gland physiology", at Boston University
1996	"Future of dental education", at University of Maryland
1996	"Gene transfer and clinical dentistry", at Tufts University, Boston , MA
1996	"View from research", at Institute of Medicine workshop on dental education, Washington, DC
1996	"Lessons from gerontologic research", at the Oral Health Interest Group, Gerontological Society, Washington, DC

Brian O'Connell, B.D.S., Ph.D.

1996	"DNA as a therapeutic agent for oral disease", at University of Texas Health Science Center, San Antonio.
1996	"Gene-based approaches to the treatment of oral disease", Scientific Frontiers in Dentistry, Bethesda, MD
1996	"Therapeutic interventions: gene transfer to salivary glands", Conference on Salivary Gland Biogenesis and Function, Airlie, VA.

Philip C. Fox, D.D. S.

1996	"Current treatments of xerostomia and salivary hypofunction, in Symposium: Xerostomia and its Clinical Management" at IADR/AADR Meeting, San Francisco, CA
1996	" Evaluation and management of salivary gland dysfunction" at Naval Medical Center, Bethesda, MD

Gene Therapy and Therapeutics Branch

Oral Health-Related Outside Activities

I. Invited Talks

Bruce J. Baum, D.M.D., Ph.D.

1996	"Salivary glands: a convenient and useful model for gene transfer", at University of Washington, Seattle
1996	"Aging and oral health", at Tokyo Dental College "Use of adenovirus to transfer genes to salivary glands", at Tokyo Dental College "Future of dental education", at Tokyo Dental College "Physiology of salivary gland secretion", at Tokyo Dental College
1996	"Salivary gland physiology", at Boston University
1996	"Future of dental education", at University of Maryland
1996	"Gene transfer and clinical dentistry", at Tufts University, Boston , MA
1996	"View from research", at Institute of Medicine workshop on dental education, Washington, DC
1996	"Lessons from gerontologic research", at the Oral Health Interest Group, Gerontological Society, Washington, DC

Brian O'Connell, B.D.S., Ph.D.

1996	"DNA as a therapeutic agent for oral disease", at University of Texas Health Science Center, San Antonio.
1996	"Gene-based approaches to the treatment of oral disease", Scientific Frontiers in Dentistry, Bethesda, MD
1996	"Therapeutic interventions: gene transfer to salivary glands", Conference on Salivary Gland Biogenesis and Function, Airlie, VA.

Philip C. Fox, D.D. S.

1996	"Current treatments of xerostomia and salivary hypofunction, in Symposium: Xerostomia and its Clinical Management" at IADR/AADR Meeting, San Francisco, CA
1996	" Evaluation and management of salivary gland dysfunction" at Naval Medical Center, Bethesda,MD

2. Sessions Chaired at Professional Meetings

Bruce J. Baum, D.M.D., Ph.D.

1996	Moderator of first day session, Scientific Frontiers in Dentistry, Bethesda, MD

3. Symposia, Meetings or Conferences Organized

None

4. Consultant for Universities or Industry

Bruce J. Baum, D.M.D., Ph.D.

1996	Consultant for Indiana University School of Dentistry, Dept. of Oral Surgery, Medicine and Pathology
1996	Visiting Professor, Tokyo Dental College, Dept. of Pharmacology
1996	Clinical Professor, University of Maryland, Dept. of Oral Health Care Delivery
1996	External Advisor for The University of Liverpool School of Dentistry, UK

Brian O'Connell, B.D.S., Ph.D.

1996	Boston University, Department of Oral Biology. Provide information and reagents to Dr. Frank Oppenheim and Dr. Tao Xu.
1996	VA Medical Center, Washington D.C., Oral Pathology Laboratory. Consultant on VA Merit Review Project for Dr. Robert Redman. Provide advice and reagents.

Philip C. Fox, D.D. S.

1996	Consultant for Biopharmaceutical Company interested in new therapeutics for oral disease, Veldona USA, Inc., Amarillo, TX

5. Elected Offices

Bruce J. Baum, D.M.D., Ph.D.

1996	Chair, Section R, American Association for the Advancement of Science

Philip C. Fox, D.D. S.

1996	President-elect, Society for Oral Oncology

1996 President, Salivary Research Group, AADR

6. Editorial Responsibilities

Bruce J. Baum, D.M.D., Ph.D.

1996 Associate Editor, European Journal of Dental Education
1996 Editorial Boards of Journal of Dental Research; Oral Surgery, Oral Medicine and Oral Pathology; Gerodontology

Philip C. Fox, D.D. S.

1996 Editorial Board: Oral Surgery Oral Medicine Oral Pathology
1996 Editorial Board: Special Care in Dentistry
1996 American Academy of Oral Medicine, Abstract Review Committee

7.Professional or Governmental Advisory Capacity

Bruce J. Baum, D.M.D., Ph.D.

1996 Planning Committee, World Workshop in Oral Medicine III (scheduled for 1998)

8. Appeared as an invited expert

Bruce J. Baum, D.M.D., Ph.D.

1996 Interview with Jan Ehrman for a NPR health program on aging and oral health, Bethesda, MD
1996 Interview with Dr. Linda Niessen for syndicated ABC television news segment on oral health. Discussed gene transfer to salivary glands, Bethesda, MD

Brian O'Connell, B.D.S., Ph.D.

1996 Interview with Dr. Linda Niessen for syndicated ABC television news segment on oral health. Discussed salivary hypofunction and gene-based approaches to therapy

9. Professional publications with outside co-authors

Brian O'Connell, B.D.S., Ph.D.

Adesanya, M.R., [§]Redman, R.S., Baum, B.J. and O'Connell, B.C. Acute inflammatory response in adenovirus-mediated gene transfer to rat salivary glands. Hum. Gene Ther. 7, 1085-1093,1996 ([§]VA Medical Center, Washington, D.C.)

O'Connell, B.C., [§]Xu, T., [*]Walsh, T.J., [*]Sein, T., [†]Mastrangeli, A., [†]Crystal, R.G., [§]Oppenheim, F.G. and Baum, B.J. Transfer of a gene encoding the anticandidal protein histatin 3 to salivary glands. Hum. Gene Ther.7, 2255-2261, 1996. ([§]Dept. of Oral Biology and Periodontology. Boston University [*]Pediatrics Branch, National Cancer Institute, NIH; [†]New York Hospital, Cornell University, New York)

10. Other

Bruce J. Baum, D.M.D., Ph.D.

1996 Invited participant to NIDR Workshop on Biomimetics, Tissue Engineering and Biomaterials, Rockville, MD

Oral Health Promotion, Risk Factors, And Molecular Epidemiology

General Basic and Clinical Research; Dental Research

1. Invited Lectures/Presentations

Scott R. Diehl, Ph.D.

1996 "Molecular Epidemiology of Human Disease." Department of Chemistry and Biochemistry, University of Texas at Austin

1996 Molecular Epidemiological Approaches to the Etiology of Human Disease. Division of Extramural Research, National Institute of Dental Research, NIH, Bethesda, MD

1996 "Unraveling the Threads of Disease Complexity: Genetics at the Turn of the Millennium" Closing lecture for course "Genetic Approaches to Complex Heart, Lung and Blood Diseases", The Jackson Laboratory, Bar Harbor.

1996 "Life after Gene Cloning: Phenotypes, Mutant Alleles, and 99,999 Other Genes". Workshop on Molecular Genetics of Ectodermal Dysplasias and Related Rare Genetic Disorders Affecting the Craniofacial Complex, Residence Inn, Bethesda MD

Helen C. Gift, Ph.D.

1996 "Oral Health Outcomes Research--Challenges and Opportunities," presented at the conference for Assessing Oral Health Outcomes: Measuring Health Status and Quality of Life

1996 "National Institute of Dental Research: Research Opportunities of the Future," presented at the Fourth National Consortium: Oral Health 2000

Deborah M. Winn, Ph.D.

1996 American Association for Dental Research, San Francisco, CA. Epidemiology of cancer and other systemic effects associated with the use of smokeless tobacco.

2. Sessions Chaired at Professional Meetings

Helen C. Gift, Ph.D.

1996 25th Annual Meeting of the American Association for Dental Research. Session: "Behavioral Sciences , Geriatric Oral Research—Application of Qualitative Research in Oral Health."

3. Symposia, Meetings or Conferences Organized

Helen C. Gift, Ph.D.

1996 25th Annual Meeting of the American Association for Dental Research Session. "Behavioral Sciences, Geriatric Oral Research—Application of Qualitative Research in Oral Health."

Deborah M. Winn, Ph.D.

1996 Working Group Chair and Conference Advisory Group Member. "National Strategic Planning Conference for the Prevention and Control of Oral and Pharyngeal Cancer."

4. Consultant for University or Industry

Scott R. Diehl, Ph.D.

1995-97 Consultant, Research Department, Naval Dental School, National Naval Medical Center, Bethesda, MD

1994 Continuing Education in Periodontics, Naval Dental School, National Naval Dental Center, Bethesda (H.J. Towle, course director). Genetic Considerations in Periodontal Disease

1994 Analytic Methods in Human Genetics (co-taught with S.J. Bale and A.M. Goldstein). Foundation for Advanced Education in the Sciences, 2 credit course.

1996 DNA Forensic Sciences - Certified Expert for Molecular and Statistical Genetics. Virginia Commonwealth's Attorney

Dec 1996-June 1997

Genes and Disease, Johns Hopkins University
Graduate Program in Biotechnology. Course Director.

Deborah M. Winn, Ph.D.

Consultant, K08 Grant from NIDR "Population-based case-control study of oral cancer" (PI: Marial Rosa Watson, DDS, MPH, Univ. of Maryland)

5. Elected Offices

Helen C. Gift, Ph.D.

American Association for Dental Research
Council, Elected Member at Large
Publication Committee, Elected Member at Large

Deborah M. Winn, Ph.D.

1996 Director, Behavioral Sciences and Health Services Research Section, International Association of Dental Research

6. Editorial responsibilities other than reviewing manuscripts

Helen C. Gift, Ph.D.

American Association for Dental Research
William J. Gies Award Committee
Editorial Board, Journal of Dental Research

Publication Committee, Elected Member-at-Large

Deborah M. Winn, Ph.D.
Associated Editor, Tobacco Control: An International Journal

7. Professional or Governmental Advisory Capacity

Scott R. Diehl, Ph.D.

1996 NIH Ad Hoc Study Section for T32 Research Training Program in Otolaryngology (NIDCD)
1996 NIH Rat Genome Working Group
1996 NIAAA Special Review Committees
1996 NIDR Ad Hoc Study Section
1996 NIH Intramural Sequencing Center

Helen C. Gift, Ph.D.

UCLA School of Public Health ICS-II, Advisor on Data Analyses
ODPHP, DHHS, Working Group on Evaluation of Priority Area 22 (data & monitoring) Working Group on Evaluation of Aging-Related HP2000 Objectives

Deborah M. Winn, Ph.D.

1996 Member, NIDR Institutional Review Board
1996 Co-chair, NIDR Intramural Research Reorganization Planning Group

8. Appeared as an invited expert

Scott R. Diehl, Ph.D.

1996 Dental Health Check (Television Special on Cleft Lip and Palate-syndicated & aired in Seattle, Dallas, New Orleans-June) Moderator Dr. L. Niessen, Baylor University, College of Dentistry

Deborah M. Winn, Ph.D.

1996 Meeting (re: alcohol-containing mouthwashes and oral cancer) of the Dental Products Panel, Plague Products Subcommittee to the Center for Drug Evaluation and Research, Food and Drug Administration.

9. Professional publications with outside co-authors

Scott R. Diehl, Ph.D.

Reynolds, J.E., Marazita, M.L., Meyer, J.M., Stevens, C.A., Eaves, L.J., Arnos, K.S., Ploughman, L.M., MacLean, C., Nance, W.E., Diehl, S.R.: Major locus contributions to variability of the craniofacial feature dystopia

canthorum in Waardenburg syndrome. Am. J. Hum. Genet. 58: 384-392, 1996.

Affiliations: Department of Human Genetics and Psychiatry, Medical College of Virginia, Virginia Commonwealth University, Richmond; Cleft Palate Craniofacial Center, University of Pittsburgh; Gallaudet University, Washington, DC

Pandya, A., Xia, X.-J., Landa, B.L., Arnos, K.S., Israel, J., Lloyd, J., James, A.L., Diehl, S.R., Blanton, S.H., Nance, W.E.: Phenotypic variation in Waardenburg syndrome: mutational heterogeneity, modifier genes or polygenic background? Human Molecular Genetics 5: 497-502, 1996.

Affiliations: Department of Human Genetics, Medical College of Virginia, Virginia Commonwealth University, Richmond; Department of Pediatrics, University of Virginia, Charlottesville, VA

Wang, S., Detera-Wadleigh, S.D., Coon, H., Sun, C., Goldin, L.R., Duffy, D.L., Byerley, W.F., Gershon, E.S., Diehl, S.R.: Evidence of linkage disequilibrium between schizophrenia and the SCA1 CAG repeat on chromosome 6p23. Am. J. Hum. Genet. 59: 731-736, 1996.

Affiliations: Clinical Neurogenetics Branch, National Institute of Mental Health, NIH, Department of Psychiatry, University of Utah, Salt Lake City; and Queensland Institute of Medical Research, Australia

Gu., X., Schwartz, J.L., Regezi, J., Silverman, S., Diehl, S.R.: Markers expressed by oral verrucous premalignant and malignant lesions. Proc. Amer. Assoc. Cancer Res. 37: 571, 1996.

Affiliations: University of California at San Francisco

Helen C. Gift, Ph.D.

Atchision, K.A. and Dayton, D.M., Conceptualization of Oral Health and Oral Health-Related Quality of Life. Social Sciences and Medicine, in press.

Atchision, K.A. Perceived Oral Health in a Diverse Sample. Advances in Dental Research, accepted for publication.

10. Other Activities

Scott R. Diehl, Ph.D.

Mentorship-Postdoctoral Fellows/Visiting Scientists

1993-96	Shengbiao Wang, M.D. (China)
1994-present	Yue-Fen Wang, D.D.S., M.S., Ph.D. (Taiwan)
1995-present	Xinbin Gu, M.D., M.S., Ph.D. (China)
1995-present	Yue Gao, M.D. (China)
1996-present	Weiching Wang, M.S., Ph.D. (China)
1996-present	Laura Russell, M.D.

Helen C. Gift, Ph.D.

NIH Intramural Behavioral and Social Sciences Research Committee, Chair
NIH/APA Prevention and Behavior Program Planning Committee
NIH Worksite Health Promotion Committee, also member data gathering and analysis subcommittee, evaluation subcommittee, back care subcommittee

11 . Outside Collaborations

Scott R. Diehl, Ph.D

1996 Collaborators on ongoing research/publications

Medical College of Virginia-Dr. H. Schenkein
Loma Linda Veteran Administration-Dr. L. Ferry
Taiwan National University-Dr. C.J. Chen
Johns Hopkins University-Dr. T.H. Beaty
University of Arizona-Dr. R. Erickson
Harvard University-Dr. A. Zavras
Lancaster Cleft Palate Clinic-Drs. M Mazahari; R Long
National Cancer Institute-Drs. A. Hildeshein, A.M. Goldstein, R. Hayes
National Institute of Mental Health-Drs: E.S. Gershon, L.R. Goldin
American Type Culture Collection-Rockville-Dr. W. Nierman
University of Utah-Dr. W. Byerley
Polish Institute of Genetics-Poland-Dr. M. Witt
University of North Carolina-Dr. D. Warren
University of Washington at St. Louis-Dr. P. Witt
University of Chile-Dr. N. Lopez
Queensland Institute of Medical Research, Australia-Dr. D.L. Duffy

Helen C. Gift, Ph.D.

Kathryn Atchison, University of California at Los Angeles
Ronald Andersen, University of California at Los Angeles
Clemencia Vargus, Center for Disease Control and Prevention
Barbara Gooch,, Center for Disease Control and Prevention
Linda Kaste, Medical University of South Carolina
Suzanne Strickland, National of Institutes of Health, Office of the Director
Gail Cherry-Peppers, Health Resources and Services Administration
Evelyn Mathis, Center for Disease Control and Prevention

Oral Infection And Immunity Branch

General Basic And Clinical Research

1. Invited Talks

John Cisar, Ph.D.

1996 "Molecular Mechanisms of Bacterial Adhesion" Bio-Molecular Technology, Inc. Frederick, MD

Jerry Keith, Ph.D.

1996 American Pediatric Society, "Molecular mechanism of trimethoprim (TMP) resistance in Streptococcus pheumoniae"

1996 Colorado State University, "Development of new generation vaccines and therapeutics: from disease prevention to designer genes, Collins, CO

1996 Institut Pasteur De Lille, "Molecular mechanism of trimethoprim (TMP) resistance in Streptococcus pheumoniae," Lille, France

Paul Kolenbrander, Ph.D.

1996 American Society for Microbiology, New Orleans, LA "Surface proteins and adherence of oral streptococci and actinomyces"

1996 "Mechanisms of cell-to-cell recognition among oral bacteria" University of New South Wales, Sydney, Australia

Abner L. Notkins, M.D.

1996 International Conference on Prevention of Type I Diabetes "IA-2, IA-2β and other pancreatic islet cell genes," Majvik, Finland

1996 Annual Meeting of the American Diabetes Association "Molecular mimicry," San Francisco, CA

1996 Scripps Research Insitute, "Isolation of five novel cDNAs from pancreatic beta cells: identification of IA-2 and IA-2β as members of the protein tyrosine phosphatase family and as major autoantigens in insulin-dependent diabetes mellitus," La Jolla, CA

1996 Jefferson Medical College, "Members of the protein phosphatase family are major autoantigens in insulin-dependent diabetes mellitus: Predicting clinical disease," Philadelphia, PA

1996 International Conference on the Immunology of Diabetes, "Expression, molecular processing and antigenic deeterminants of IA-2," Canberra, Australia

Nicholas Ryba, Ph.D.

1996 Epithelial Function Workshop, NIH Research Festival, Bethesda, MD, "Olfactory signal transduction."

John Thompson, Ph.D.

1996 NIH Fluorescence Interest Group: "Unusual fluorescence properties and physico-chemical studies of the enzyme, N^5-Carboxyethylomithine synthase

Sharon M. Wahl, Ph.D.

1996 Invited Speaker, 9th Gordon Conference on Oxygen Radicals in Biology, Ventura, California

1996 Speaker, Cytokine Interest Group, Symposium on TGF-β

1996 Invited Speaker, "Inflammatory Responses that Precede Fibrosis" Therapeutic Advances in Fibrosis Research," Washington, D.C.

1996 Symposium Speaker, "TGF-β in Inflammation: For or Against", Association for Research in Vision and Opthalmology (ARVO) Annual Meeting, Florida

1996 Symposium Speaker, "TGF-β in Inflammation and Disease: The Eyes Have It", American Uveitis Society, Ft. Lauderdale, Florida

1996 Invited Lecture, "Secretory Leukocyte Protease Inhibitor (SLPI) in Mucosal Fluids Inhibts HIV". Department of Microbiology, University of Alabama, Birmingham.

1996 Invited Speaker, "Mucosal Inhibitors of HIV", Third International Conference on Oral Manifestations of HIV, London, England

1996 Invited Speaker, NIDR Scientific Frontiers in Clinical Dentistry

1996 Invited Speaker, "Cytokines in Inflammation", International Society of Nephrology (ISN) Forefronts on Cytokines and Adhesion Molecules, Snowbird, Utah

1996 Moderator, "Matrix, Microbes and Mucosa: 4 Decades of Microbiology and Immunology", Natcher Center, NIH, Bethesda, Maryland

1996 Speaker, "Opportunistic Pathogens Enhance Viral Replication in Macrophages", International Workshop on HIV and Cells of Macrophage Lineage, Varenna, Italy

1996 Invited Lecture, "HIV-1, Macrophages, Opportunistic Infections and SLPI", University of Pennsylvania School of Dental Medicine, Philadelphia, Pennsylvania

2. Sessions Chaired at Professional Meetings

Abner L. Notkins, M.D.

1996 Symposium at the International Conference on the Immunology of Diabetes Canberra, Australia

Sharon M. Wahl, Ph.D.

1996 Co-Chair, Autoimmunity/Tolerance Workshop, NIH Immunology Retreat, Airlie Center, Virginia

3. Symposia, Meetings or Conferences Organized

Paul Kolenbrander, Ph.D.

1996 Organized Conference entitled "Microbial Ecology and Infectious Disease" Bethesda, MD

Reuben P. Siraganian, Ph.D.

1996 Member of program committee for The Third International Workshop on Signal Transduction in the Activtion and Development of Mast Cells and Basophils.

Sharon M. Wahl, Ph.D.

1996 Organizing Committee, Cytokine Interest Group
1996 International Organizing Committee, Third International Workshop on HIV and Cells of Macrophage Lineage
1996 Organizer, HIV-1 and Mucosal Pathogenesis Symposium

4. Consultant for Universities or Industry

Jerry Keith, Ph.D.

1996 American Vaccines, Inc., Beltsville, MD

Stephen H. Leppla, Ph.D.

1996 Promega Corporation

Reuben P. Siraganian, M.D., Ph.D.

1996 Tanox Biosystems, Inc., Houston, TX
Akin, Gump, Strauss, Hauer & Feld, L.L.P., Washington,D.C.

John Thompson, Ph.D.

1996 University of Wageningen, Netherlands
1996 University of California at San Diego
1996 University of Sheffield, England, Department of Molecular Biology
1996 NIDDK, NIH

Sharon M. Wahl, Ph.D.

1996 Pfizer Cytokine Research Council
1996 Scios Nova

5. Elected Offices

Abner L. Notkins, M.D.

1996 Board of Governors, NYU School of Medicine Alumni Association

Sharon M. Wahl, Ph.D.

1996 Councilor, Society for Leukocyte Biology
1996 Chair, Fogarty International Center Scholars Advisory Board
1996 Secretary, FAES Board of Directors
1996 Co-chair, NIH Cytokine Interest Group

6. Editorial responsibilities other than reviewing manuscripts

Nicholas Ryba, Ph.D.

1996 Editorial Advisor, Biochemical Journal

Reuben P. Siraganian, M.D., Ph.D.

1996 Member: Advisory Committee of Japanese Society of Allergology

Sharon M. Wahl, Ph.D.

1996 Section Editor, Journal of Immunology
1996 Editorial Board, Wound Repair and Regeneration
1996 Section Editor, Journal of Leukocyte Biology
1996 Board of Editors, American Journal of Pathology
1996 Editorial Board, Cellular Immunology

1996 Advisory Editor, Journal of Experimental Medicine

7. Professional or Governmental Advisory Capacity

Abner L. Notkins, M.D.

1996 Member, Steering Committee, National Disease Research Interchange

1996 Member, Scientific Advisory Council, March of Dimes

1996 Member, Board of Directors, The Paul Ehrlich Foundation Frankfurt, Germany (Second Term)

1996 Advisor, NIH Alumni Association

Sharon M. Wahl, Ph.D.

1996 NIH-Howard Hughes Medical Institute Summer Research Program Selection Committee

1996 NIAID, Laboratory of Parasitic Diseases Tenure-Track Search Committee

1996 Advisory Council, Meharry Medical College, Regional Research Centers for Minority Oral Health

1996 Board of Directors, Foundation for Advanced Education in the Sciences (FAES)

1996 NIH AIDS Executive Committee

1996 NCI Radiation Biology Branch, Tenure Track Search Committee

1996 NIH Intramural AIDS Targeted Antiviral Program (IATAP) Grant Review Committee

1996 Office of AIDS Research (OAR) Etiology and Pathogenesis Coordinating Committee, NIH

8. Appeared as an invited expert

9. Professional publications with outside co-authors

John Cisar, Ph.D.

J. O. Cisar, A. L. Sandberg, *C. Abeygunawardana, *G. P. Reddy and *C. A. Bush. 1996. Lectin recognition of host-like saccharide motifs in streptococcal cell wall polysaccharides. ***Glycobiology*** **5**: 655-662. (Department of Chemistry and Biochemistry, University of Maryland, Baltimore County, Baltimore , MD)

Jerry Keith, Ph.D.

Pikis, A., Donkersloot, J.A., *Akram, S., Keith, J.M., *Campos, J.M., *Rodriguez, W.J: 1996. Decreased susceptibility to imipenem among penicillin-resistant Streptococcus pneumoniae. In press. (*Children's Hospital, Washington, D.C.)

Klimpel, K.R., *Goletz, T.J., Arora, N., Leppla, S.H., Keith, J.M. and *Berzofsky, J.A. 1996. Targeting HIV proteins to the MHC Class I processing pathway with a novel gp-120-anthrax toxin fusion protein. (Molecular Immunogenetics and Vaccine Research Section, NCI, Bethesda, MD)

Stephen Leppla, Ph.D.

*Little, S.F., **J.M. Novak, *J.R. Lowe, S.H. Leppla, ***Y. Singh, K. Klimpel, *B.C. Lidgerding and *A.M. Friedlander. Characterization of lethal factor binding and cell receptor binding domains of protective antigen of ***Bacillus anthracis*** using monoclonal antibodies. ***Microbiology*** 142:707-715. 1996. (*US Army Medical Research, Frederick, MD, **FDA,Rockville, MD, ***Centre for Biochemical Technology, Delhi, India)

*Petosa, C., *R.J. Collier, K.R. Klimpel, S.H. Leppla and *R.C. Liddington. Crytstal structure of the anthrax toxin protective antigen at 2.1 A resolution. ***Nature***, in press, 1997. (*Harvard University)

Gordon, V.M., *A. Rehemtulla and S.H. Leppla. A role for PACE 4 in the proteolytic activation of anthrax toxin protective antigen. ***Infect. Immun.***, in press, 1997. 15:9-16. (*University of Michigan)

Abner L. Notkins, M.D.

DeSilva, M.G., Lu, J., Donadel, G., *Modi, W.S., Xie, H., Notkins, A.L. and Lan, M.S. 1996. Characterization and chromosomal localiation of a new protein disulfide isomerase, PDIp, highly expressed in human pancreas. ***DNA Cell Bio.*** (*Frederick Cancer Research & Development Center)

*Pincus, S.H., *Wehrly, K., *Cole, R., *Fang, H., *Lewis, G.K., *McClure, J., *Conley, A.J., *Wahren, B., *Posner, M.R., Notkins, A.L. *Tilley, S.A., *Pinter, A., *Eiden, L., *Teintze, M., *Dorward, D. and *Tolstikov, V.V. 1996. *In vitro* effects of anti-HIV immunotoxins directed against multiple epitopes on HIV Type 1 envelope glycoprotein 160. ***AIDS Res.Hum. Retro.,*** 12:1041- 1051. (*NIAID, Montana State University, etc.)

Lan, M.S., *Wasserfall, C., *Maclaren, N.K., and Notkins, A.L. 1996. IA-2, a transmembrane protein of the protein tyrosine phosphatase family, is a major autoantigen in Insulin Dependent Diabetes Mellitus. ***PNAS*** 93:6367-6370. (*University of Florida College of Medicine)

Lu, J., Li, Q., Xie, H., Chen, Z.J., Borovitskaya, A.E., *Maclaren, N.K., Notkins, A.L. Lan, M.S. 1996. Identification of a second transmembrane protein tyrosine phosphatase, IA-2b, as an autoantigen in insulin-dependent diabetes mellitus: Precursor of the 37-kDa tryptic fragment. ***PNAS***, 93:2307-2311. (*University of Florida College of Medicine)

Devadas, K., Notkins, A.L., *Gottleib, P.D., and Zhou, P. 1996. The complete cDNA sequence of hamster antibody specific for HIV-1 protease. ***Immunogenetics,*** In Press. (*University of Texas)

DeSilva, M.G., *Jun, H., *Yoon, J-W., Notkins, A.L., and Lan, M.S. 1996. Autoantibodies to IA-2 not detected in NOD Mice or BB rats. ***Diabetologia***. 39:1237- 1238. (*University of Calgary, Canada)

Lan, M.S., *Modi, W.S., Xie, H., and Notkins, A.L. 1996. Assignment of the IA-gene encoding an autoantigen in insultin-dependent diabetes mellitus to chromosome q35. ***Diabetologia***. 39:1001-3. (*Frederick Cancer Research & Development Center)

Notkins, A.L., Lu, J., Li, Q., VanderVegt, F.P., *Wasserfall, C., *Maclaren, N.K., and Lan, M.S. 1996. IA-2 and IA-2b are major autoantigens in IDDM and the precursors of the 40 kDa and 37 kDa tryptic fragments. ***J. Autoimmunity***. 9:677-682. (*University of Florida College of Medicine)

Nicholas Ryba, Ph.D.

Youmei Wu, M.D., Nicholas Ryba, D. Phil.

Wu, Y., *1 Tirindelli, R., Ryba, N. J. P. 1996. Evidence for different chemosensory signal transduction pathways in olfactory and vomeronasal neurons. ***Biochem. Biophys. Res. Comm.*** 220, 900-904.

(*Fisiologia Umana, Universita di Parma, Via Gramsci 14, 43100 Parma, Italy.)

Reuben P. Siraganian, M.D., Ph.D.

* Jamur, M.C., * Moreno, A.N., * Grodzki, A.C.G., Siraganian, R.P., Oliver, C. Immunomagnetic separation of rat peritoneal and one-marrow derived mast cells. ***Mol. Biol. Cell*** 6:447,1995.
(* The Federal University of Parana, Prana, Brazil)

* Hendricks-Taylor, L.R., * Motto, D.G., Zhang, J., Siraganian, R.P. and *Koretzky, G.A.: SLP-76 is a substrate of the high affinity IgE receptor in RBL-2H3 cells. ***J. Biol. Chem***. 272 In press.
(*University of Iowa School of Medicine, Iowa City, Iowa)

Sharon M. Wahl, Ph.D.

Um, H.D., *J.M. Orenstein and S.M. Wahl. 1996. Fas-mediates apoptosis in human monocytes by a reactive oxygen intermediate dependent pathway. ***Journal of Immunology*** 156:3469-3477.
(* J.M. Orenstein, George Washington University)

N.L. McCartney-Francis, D.E. Mizel, * R.S. Redman, M.R. Frazier-Jessen, R.B. Panek, A.B. Kulkarni, ** J.M. Ward, *** J.B. McCarthy and S.M. Wahl. 1996. Autoimmune Sjogren's -like lesions develop in salivary glands of TGF-β1 deficient mice are inhibited by adhesion-blocking peptides. ***Journal of Immunology*** 157:1306-1312.
(*Dept. of Veterans Affairs Medical Center; **National Cancer Institute, *** University of Minnesota)

Wahl, S.M., McNeely, T.B., *Shugars, D., Worley, P. Tucker, C., **Orenstein, J.M. and ***Janoff, E.N. 1996. Secretory leukocyte protease inhibitior (SLPI) in mucosal fluids inhibits HIV-1. ***Oral Diseases*** 3: in press.
(*University of North Carolina, **George Washington University, ***University of Minnesota)

Wahl, S.M. Worley, P., Jin, W.W., McNeely, T.B., *Eisenberg, S., **Orenstein, J.M., ***Fasching, C. and ****Janoff, E.N. 1996. Anatomic dissociation between HIV-1 and its endogenous inhibitor in mucosal tissues. ***American Journal of Pathology***, in press.
(*Synergen, Inc., Boulder, CO, **George Washington University, ***University of Minnesota, ****University of Minnesota)

*Orenstein, J.M., and Wahl, S.M. 1996. Opportunistic pahtogens enhance viral replication in macrophages. ***Journal of Leukocyte Biology***, in press.
(*George Washington University)

Wahl, S.M., Frazier-Jessen, M., *Kopp, JU., **Sher, A., **Cheever, A. 1996. Cytokine regulated fibrosis. ***Kidney International***, in press.
(*NIH/NIDDK, **NIH/NIAID)

Zhang, Y., *DeWitt, D.L., McNeely, T.B., Wahl, S.M. and Wahl, L.M. 1996. Secretory leukocyte protease inhibitor (SLPI) suppresses the production of monocyte prostaglandin H. synthase-2, prostaglandin E2, and matrix metalloproteinases. ***Journal of Clinical Investigation***, in press.
(*University of Michigan)

Mertz, P.M, *Corcoran, M.L., McCluskey, K.M., Zhang, Y., Wong, H.L., **Lotze, M.T., ***DeWitt, D.L., Wahl, S.M., and Wahl, L.M. 1996. Suppression of prostaglandin H synthase-2 induction in human monocytes by in vitro and in vivo administration of interleukin 4. ***Cellular Immunology*** 173:252-260
(*NIH/NCI, **University of Pittsburgh, ***University of Michigan)

*Smith, P.D. and Wahl, S.M. 1996. Immunobiology of mucosal HIV-1 infection. In ***Mucosal Immunology, Second Edition.*** (Ogra, P., Mestecky, J., Lamm, M., Strober, W., McGhee, J. and Bienenstock, J., eds). Academic Press, in press.
(*University of Alabama)

(*Skaleric, U., *Kramar, B., *Petelin, M., *Pavlica, Z. and Wahl, S.M. 1996. Changes in TGF-β1 levels in gingiva, crevicular fluid and serum associated with periodontal inflammation in humans and dogs. ***European Journal of Oral Science***, in press.
(*University of Ljubljana, Ljubljana, Slovenia)

Wahl, S.M., *Jackson, R. and *McGhee, J.: 1996. Quantification of transforming growth factor b isoforms. In ***Current Protocols in Immunology.*** (A.M. Kruisbeck, D.H. Margulies, E.M. Shevach, and W. Strobell, eds). Greene Publishing Associates and Wiley Interscience, New York, in press.
(*University of Alabama)

Wahl, S.M., *Orenstein, J.M. and **Smith, P.D. 1996. Macrophage function in HIV infection. In Immunology of HIV Infection (S. Gupta, ed), Plenum Press. pp.
(*George Washington University, Washington, D.C.)
(**University of Alabama School of Medicine)

Wahl, S.M., * Feldman, G.F. and ** McCarthy, J.B. 1996. Regulation of leukocyte adhesion and signaling in inflammation and disease. Journal of Leukocyte Biology, 59:789-796

(* Food & Drug Administration, Bethesda, MD)
(** University of Minnesota)

10. Other

John Cisar, Ph.D.

1996 External Ph.D. Thesis Examiner: Ms. Beth Tyler, "Role of IgA1protease in bacterial pathogenesis" Department of Microbiology and Immunology, Georgetown University

Paul Kolenbrander, Ph.D.

Fogarty Scholar-in Residence sponsoring laboratory for Dr. Eugene Rosenberg, Director of Biotechnology Institute, Tel Aviv University.

Invited to write chapter in medical textbook Topley & Wilson's Microbiology and Microbial Infections: chapter entitled "Environmental Sensing Mechanisms and Virulence Factors of Bacterial Pathogens" published 1997.

Member of graduate student thesis committee, University of MD, Baltimore County.

Stephen Leppla

Member of NIH institutional Biosafety Committee

Abner L. Notkins, M.D.

Adjunct professor of Pathology, Uniformed Service University of Health Sciences, Bethesda, MD

Reuben P. Siraganian, M.D., Ph.D.

1996 Gift Fund: Ono Pharmaceutical Co., Ltd.
Patent Royalties Fund

Project Officer: "Analysis of Molecules Involved in Receptor-Mediated Signaling" Contract.

Sharon M. Wahl, Ph.D.

Patents: U.S. Patent 5,545,620: Synthetic fibronectin fragments as inhibitors of retroviral infection. Inventors: S.M. Wahl, J.B. McCarthy and L.T. Furcht

U.S. Patent 5,591,719: Method for treating acute and chronic inflammatory disorders using polypeptides with fibronectin activity. Inventors: L.. Furcht, J. McCarthy, S.M. Wahl and J.B. Allen.

Project Officer: Role of Mononuclear Phagocytes in Opportunistic Infections of Oral Mucosa and Other Tissues in AIDS Patients. George Washington University (N01-DE-12585)

Project Officer: Oral and Intestinal Mucosal Response to HIV: Implications for Vaccine Development/ University of Minnesota/VA Medical Center (N01-DE-42600)

Project Officer: Immunologic factors in saliva and blood as determinants of HIV-related oral disease.

Project Officer: Detection of HIV-1 in the oral cavity of women with HIV-1 infection: Correlation with clinical status and virologic and immunologic parameters. DATRI 009b Substudy of DATRI 009. A Clinical Trial of the Division of AIDS Treatment Research Initiative. Sponsored by NIDR in Collaboration with NIAID.

Cooperative Research and Development Award (CRADA) with Synergen, Inc./Amgen

Pfizer Research Fund

Scios Nova Research Fund

FAES Graduate Course Lecturer. Immunology 522. Cell Biology and Immunity in Inflammation: Chronic Inflammation

FAES Graduate Course Lecturer. Immunology 504. Allergy and Clinical Immunology: Macrophages

11. Current Collaborators

Jerry M. Keith, Ph.D.

Keith, J.M., D. Brown, H. Sato and Y. Sato. Formal collaboration on genetically inactivated pertussis toxins: vaccine candidates and virulence of toxoid producing bordetella pertussis strains. (NIH (USA), USAMRID, Fort Detrick, Frederick, MD and NIH (Japan), Tokyo, Japan

Keith, J.M., K.L. Vadheim, A. Haddi. Formal collaboration on the development of plant expression systems for delivery of oral vaccines. NIH, FDA, Rockville, MD. USDA, Belthsville, MD.

Keith, J.M., T. Merkel, R. Schneerson and J.B. Robbins. Formal collaboration on development of polysaccharide conjugate vaccines. NIDR and NICHD.

Vadheim, K.L., Y. Singh and J.M. Keith. Oral cholera vaccine constructs using genetically detoxified cholera toxin. Poster presentation ASM meeting. 1996, U.S.A.

Keith. J.M., G. Diglisic and C. Gentry-Weeks. Genetic analysis of survival of *Fusobacterium necrophorum* and *Fusobacterium nucleatum* in mouse peritoneal macrophages. Poster presentation ASM Meeting. May 1996, USA.

M. Varughese, S.H. Leppla. and J.M. Keith: Collaboration with Brian Sauer. LBM, NIDDK, on the ability of anthrax toxin lethal factor fusion proteins to deliver cre recombinase to the cytosol of cells.

M. Varughese, S.H. Leppla, J.M. Keith: Collaboration with Dr. Hiroko Sato. NIH of Japan, to study the effects of the S1 subunit of pertussis toxin when delivered to the cytosol of cells as a fusion to anthrax toxin lethal factor.

Stephen Leppla, Ph.D.

S.H. Leppla: Collaboration with Michael Ussery. FDA. on the ability of mutationally altered anthrax toxin fusion proteins to specifically target HIV-1 infected cells.

S.H. Leppla: Collaboration with Yogendra Singh on the interaction of anthrax toxin with eukaryotic cells; Manuscript submitted to Molecular Microbiology: "Oligomerization of anthrax toxin protective antigen and binding of lethal factor during endocytic uptake into mammalian cells".

S.H. Leppla: Collaboration with Brian Sauer, LBM, NIDDK, on the ability of anthrax toxin lethal factor fusion proteins to deliver cre recombinase to the cytosol of cells.

S.H. Leppla: Collaboration with Rodney Tweten, U. of Oklahoma. on the ability of furin to activate Clostridium septicum alpha toxin. A manuscript is ready for submission: "Clostridium speticum alpha toxin is activated by furin".

S.H. Leppla: Collaboration with Rachel Schneerson and John Robbins. NiCHD. on the ability of anthax toxin proetective antigen

to serve as a protein carrier for polysaccharide vaccines.

S.H. Leppla, J.M. Keith: Collaboration with Dr. Hiroko Sato, NIH of Japan, to study the effects of the S1 subunit of pertussis toxin when delivered to the cytosol of cells as a fusion to anthrax toxin lethal factor.

S.H. Leppla: Supplied furin-deficient Chinese hamster ovary cell lines to a number of individuals:

1. Dr. Uwe Schlokat, Immuno AG, Vienna, Austria
2. Dr. Andreas Becker, Schjering AG, Berlin, Germany
3. Dr. Gary Winslow, Wadsworth Center for Laboratories and Research, Albany, NY
4. Dr. Greg Pott, University of Colorado, Denver, CO

Oral Infection and Immunity Branch

Dental Research

1. Invited Talks

John Cisar, Ph.D.

1996 "Specific Inhibitors of Bacterial Adhesion" Biofilms on Oral Surfaces: Implications for Health and Disease, 14th International Conference on Oral Biofilms, Monterey, CA

Paul Kolenbrander, Ph.D.

1996 International Association for Dental Research and International Conference on Oral Biology, "Specific Inhibitors of Bacterial Adhesion" Biofilms on Oral Surfaces: 14th International Conference on Oral Biofilms, Monterey, CA

1996 International meeting of the Australian and New Zealand Societies for Microbiology: "Specific cell-to-cell recognition among oral bacteria" Christchurch, NZ

1996 "Potential Role of Bacterial Cell-to-Cell Recognition in Colonization of Oral Surfaces" Dental Research Institute, Sydney, Australia

Sharon M. Wahl, Ph.D.

1996 Symposium Speaker, "Salivary Anti-HIV Proteins", IADR/AADR Symposium on HIV Disease: New Viruses, New Directions, San Francisco, California

1996 Invited Lecture, "Secretory Leukocyte protease Inhibitor (SLPI) in Mucosal Fluids Inhibts HIV". Department of Microbiology, University of Alabama, Birmingham.

1996 Invited Speaker, "Mucosal Inhibitors of HIV", Third International Conference on Oral Manifestations of HIV, London, England

1996 Speaker, NIDR Scientific Frontiers in Clinical Dentistry

1996 Invited Lecture, "Antiviral Activity of Secretory Leukocyte Protease Inhibitor", Washington Dental Scientist Association,

Bethesda, Maryland

1996 Invited Lecture, "HIV-1, Macrophages, Opportunistic Infections and SLPI", University of Pennsylvania School of Dental Medicine, Philadephia, Pennsylvania

2. Sessions Chaired at Professional Meetings

Sharon M. Wahl, Ph.D.

1996 Chair, Matrix, Microbes and Mucosa:4 Decades of Microbiology and Immunology.

3. Symposia, Meetings or Conferences Organized

Sharon M. Wahl, Ph.D.

1996 Organizer, Matrix, Microbes and Mucosa: 4 Decades of Microbiology and Immunology. A Symposium in honor of Dr. S.E. Mergenhagen

4. Consultant for Universities or Industry

John Cisar, Ph.D.

1996 Mechanisms of oral biofilm formation, Dental Research Division, Unilever Research Port Sunlight Laboratory, London

Paul Kolenbrander, Ph.D.

1996 Consultant for Procter & Gamble Company

Sharon M. Wahl, Ph.D.

1996 Amgen, Boulder, CO

5. Elected Offices

6. Editorial responsibilities other than reviewing manuscripts

7. Professional or Governmental Advisory Capacity

Sharon M. Wahl, Ph.D.

1996 NIDR Neurobiology and Anesthesiology Branch Chief Search Committee
1996 NIDR Representative, NIH AIDS Executive Committee
1996 Advisory Council, Meharry Medical College, Regional Research Centers for Minority Oral Health

8. Appeared as an invited expert

Sharon M. Wahl, Ph.D.

1996 Dental Health Check - television segments on oral health research and practice for the consumer

9. Professional publications with outside co-authors

John Cisar, Ph.D.

Ruhl, S., Sandberg, A. L., Cole, M. F.* and Cisar, J. O. 1996. Recognition of Immunoglobulin A1 by Oral Actinomyces and Streptococcal Lectins. ***Infect Immun***. **64**: 5421-5424. (*Department of Microbiology and Immunology, Georgetown University Medical Center, Washington, D. C.)

Beem, J. E., Hurley, C. G., Nesbitt, W. E., Croft, D. F., Marks, R. G., Cisar, J. O. and Clark, W. B. 1996. Fimbrial-mediated colonization of murine teeth by *Actinomyces naeslundii*. ***Oral Microbiol. Immunol.*** **11**: 259-265. (Department of Oral Biology, College of Dentistry, University of Florida, Gainesville, FL)

Paul Kolenbrander, Ph.D.

Klier, C.M., P.E. Kolenbrander, A.G. Roble, M.L. Marco, S. Cross and *P.S. Handley. 1996. Ientification of a 95 kDa putative adhesin from Actinomyuces serovar WVA963 strain PK 1259 that is distinct from type 2 fimbrial subunits. ***Microbiology*** 143: (in press). (*Manchester University, UK)

Sharon M. Wahl, Ph.D.

McCartney-Francis, N., Mizel, D., *Redman, R., Frazier-Jessen, M., Panek, R.B., Kulkarni, A., **Ward, J., ***McCarthy, J.B. and Wahl, S.M. 1996. Autoimmune Sjögren's-like lesions develop in salivary glands of TGF-β1 deft mice and can be inhibited by adhesion-blocking peptides. ***Journal of Immunology*** 157:1306-1312.
(*Dept. of Veterans Affairs Medical Center, **National Cancer Institute, ***University of Minnesota)

Wahl, S.M., McNeely, T.B., *Shugars, D., Worley, P., Tucker, C., **Orenstein, J.M. and ***Janoff, E.N. 1997. Secretory leukocyte protease inhibitor (SLPI) in mucosal fluids inhibits HIV-1. *Oral Diseases* 3:in press.
(*University of North Carolina, **George Washington University, ***University of Minnesota)

Wahl, S.M., Worley, P., Jin, W.W., McNeely, T.B., *Eisenberg, S., **Orenstein, J.M., ***Fasching, C. and ***Janoff, E.N. 1997. Anatomic dissociation between HIV-1 and its endogenous inhibitor in mucosal tissues. *American Journal of Pathology*, in press.
(*Synergen, Inc., Boulder, CO, **George Washington University, *** University of Minnesota)

*Skaleric, U., *Kramar, B., *Petelin, M., *Pavlica, Z. and Wahl, S.M. 1996. Changes in TGFf-β1 levels in gingiva, crevicular fluid and serum associated with periodongtal ifnlammation in humans and dogs. *European Journal of Oral Science*, in press.
(*University of Ljubljana, Ljubljana, Slovenia)

10. Other

Paul Kolenbrander, Ph.D.

1996 Project Officer, "Construction and Application of a Flowcell for Attenuated Total Reflectance-Fourier-Transform Infrared (ATR-FTIR) Spectrometer/Scanning Confocal Laser Microscope (SCLM) Studies of Oral microbial Communities".

Invited to write review for the Annual Reviews of Microbiology: chapter entitled "Mechanisms of Adhesion of Oral Bacteria" published 1996.

Oral And Pharyngeal Cancer Branch

General Basic And Clinical Research

1. Invited Talks

J. Silvio Gutkind, Ph.D.

1996 Holland Laboratory, American Red Cross, Rockville, MD. "Signaling from the Membrane to the Nucleus through GTP-binding Proteins Acting on Independent Kinase Cascades".

1996 University of Pennsylvania, Philadelphia, Pennsylvania "Signaling from the Membrane to the Nucleus through Independent Kinase Cascades".

1996 7th Symposium on muscarinic Receptors, Fairfax, VA. "Signaling from m2 Receptors to the MAP kinase Pathway".

1996 Chair, Third Annual Signal Transduction Therapy San Diego, California. Presentation: "Signaling from the Membrane to the Nucleus Involves Small GTP-binding Proteins Acting on Divergent MAP kinase Cascades".

1996 Workshop "Signal Transduction From the Membrane to the Nucleus" NIH Research Festival. "Signaling from the Membrane to the Nucleus through GTP-binding Proteins Acting on Independent Kinase Cascades".

1996 Second International Colloquium on "Cellular Signal Recognition and Transduction", Berlin, Germany. Mitogenic Signaling through G Protein-Coupled Receptors".

1996 Georgetown University, Washington DC. "The Pathway Connecting G Protein-Coupled Receptors to the Nucleus".

1996 Stony Brook, New York, NY. "Signaling from the Membrane to the Nucleus through GTP-binding Proteins Acting on Divergent Kinase Cascades".

1996 Sixth International Symposium on Oncogenes, San Sebastian, Spain. "Signaling from the Membrane to the Nucleus through Small GTP-binding Proteins Acting on Divergent MAP kinase Cascades".

1996 Center of Molecular Biology "Severo Ochoa", Madrid, Spain. "Signaling from the Membrane to the Nucleus through GTP-binding Proteins Acting on Independent Kinase Cascades". University of Santander, Santander, Spain. "The Pathway Linking G Protein Coupled Receptors to the Nucleus".

1996 Congress of the Pan American Association of Biochemistry and Molecular Biology, Symposium on "Regulation of protein kinases involved in cell division", Pucon, Chile

Presentation on "Mitogenic Signaling through Novel Kinase Cascades"

1996 University of Buenos Aires, School of Pharmacy and Biochemistry, Buenos Aires, Argentina. "Proliferative signaling from the membrane to the nucleus"

Myung Hee Park, Ph.D.

1996 Workshop in eIF-5A Function. "The hypusine modification in eIF-5Aand its role in cellular regulation"
Genetic Therapy Inc., Gaithersburg, MD, April 18, 1996

1996 Tokyo International Symposium on Polyamines Oct. 21-25, 1996

1996 "The essential role of the polyamine-derived amino acid, hypusine, in eukaryotic cell proliferation."
Shonan Village Center, Tokyo, Japan, Oct. 23, 1996

1996 Tokyo Medical and Dental University, School of Dentistry. Department of Biochemistry. "Post-translational formation of hypusine in eIF-5A; its essential role for eukaryotic cell proliferation"
Tokyo, Japan, Oct. 25, 1996

1996 Seoul National University, Department of Chemistry. "Deoxyhypusine synthase: a new target for intervention in eukaryotic cell proliferation."
Seoul, Korea, Nov., 1996

1996 Duk-Sung Women`s College, Department of Chemistry. "A novel posttranslational modification leading to hypusine synthesis in eIF-5A is vital for eukaryotic cell proliferation."
Seoul, Korea, Nov. 1, 1996

1996 NIDDK, NIH. Laboratory of Biochemistry and Genetics (*formerly* Laboratory of Biochemical Pharmacology). "Hypusine biosynthesis in eIF-5A"
Bethesda, MD, Nov. 13, 1996

1996 NIDDK, NIH. Laboratory of Molecular and Cellular Biology. "The essential role of the polyamine-derived amino acid, hypusine, in eukaryotic cell proliferation."
Bethesda, MD, Dec. 6, 1996

Frank A. Robey, Ph.D.

1996 Washington Area Chromatography Discussion Group seminar. "Use of Capillary Electrophoresis for binding studies."
November 14, 1996

1996 Food and Drug Administration, CBER,"Use of capillary electrophoresis for binding studies."
October 28, 1996

1996 NCI Frederick, Maryland, "Repercussions of targeting CD4 with the active site of gp120 from HIV-1."
January 26, 1996

2. Sessions Chaired at Professional Meetings
   J. Silvio Gutkind, Ph.D.
      1996 Workshop on Signal Transduction from the Membrane to the Nucleus, NIH
      1996 Third Annual Signal Transduction Therapy Conference, San Diego, California
      1996 Symposium on Regulation of Protein Kinases Involved in Cell Division, Congress of the Pan American Association of Biochemistry and Molecular Biology, Pucon, Chile
   Myung Hee Park, Ph.D.
      1996 Tokyo International Symposium on Polyamines Discussion leader for poster presentation October 21-25, 1996
      Shonan Village Center, Tokyo, Japan, Oct. 23, 1996
3. Symposia, Meetings or Conferences Organized
   J. Silvio Gutkind, Ph.D.
      1996 Workshop on Signal Transduction from the Membrane to the Nucleus, NIH
      1996 Third Annual Signal Transduction Therapy Conference, San Diego, California
      1996 Symposium on Regulation of Protein Kinases Involved in Cell Division, Congress of the Pan American Association of Biochemistry and Molecular Biology, Pucon, Chile
4. Consultant for Universities or Industry
   J. Silvio Gutkind, Ph.D.
      1996 COR Therapeutics
5. Elected Offices
   Myung Hee Park, Ph.D.
      1996 Chair of Budget and Finance Committee, Society of Biomedical Research
      Sept. 1996-present
6. Editorial responsibilities other than reviewing manuscripts
   J. Silvio Gutkind, Ph.D.
      1996 Requested, Humana Press, Book on Signal Transduction and Cell Cycle Inhibitors
7. Professional or Governmental Advisory Capacity
   J. Silvio Gutkind, Ph.D.
      1996 Reviewer, The Israel Science Foundation
      1996 Member, Search Committee for Laboratory Chief, NAB, NIDR
      1996- (present) Preceptor, Howard Hughes Research Scholars
      1996 Member, Search Committee for SBRS position, LCMB, NCI
      1996 Chair, Search Committee for Tenure Track Scientist, NCI-Navy Clinical Oncology Branch
      1996 Ad-hoc member, NIH Central Tenure Committee
   Frank A. Robey, Ph.D.

1996 Consultant for the Advance Technology Program, NIST, Department of Commerce, Gaithersburg, Maryland

8. Appeared as an invited expert
9. Professional publications with outside co-authors

J. Silvio Gutkind, Ph.D.

Coso O.A., Teramoto H., [1]Simonds W.F. and Gutkind J.S.: Signaling from G protein-coupled receptors to JNK/SPK involves βγ subunits of heterotrimeric G proteins acting on a Ras and Rac1-dependent pathway. J. Biol. Chem., 271; 3963-3966, 1996. ([1]National Institute of Diabetes, Digestive and Kidney Diseases, National Institutes of Health)

[1]Cuvillier O., [1]Pirianov G., [1]Kleuser B., [1]Vanek P.G., Coso O.A., Gutkind J.S. and [1]Spiegel S.: Suppression of ceramide-mediated programmed cell death by sphingosine-1-phosphate. Nature, 381; 800- 803, 1996. ([1]Georgetown University, Washington DC).

[1]Zhang S., Coso O.A., [1]Collins R., Gutkind J.S. and [1]Simonds W.F.: A carboxyl-terminal mutant of the G-protein β subunit deficient in the activation of phospholipase C-β. J. Biol. Chem.. 271; 20208-20211. 1996. ([1]National Institute of Diabetes, Digestive and Kidney Diseases, National Institutes of Health)

[1]Kieser A., [1]Adler H.S., [1]Seitz T., Crespo P., Gutkind J.S., [1]Kolch W. and [1]Mischak H.: Protein Kinase Cζ inhibits cellular transformation by upregulating *jun*-B and *egr*-1 expression. Genes and Development, 10: 1455-1466, 1996. ([1]Institute of Clinical Molecular Biology, GSF, Marchioninisstr. 25, 81377 Munich, Germany).

Crespo P., [1]Bustelo X.R., Aaronson D.S., Coso O.A., [1]Lopez-Barahona M., [1]Barbacid M. and Gutkind J.S.: Rac-1 dependent stimulation of the JNK/SAPK pathway by Vav. Oncogene, 13; 455-460, 1996. ([1]Department of Molecular Biology, Bristol-Myers Squibb Pharmaceutical Research Institute, Princeton, New Jersey).

[1]Sundaresan M., [1]Yu Z.-X., [1]Ferrans V.J., [1]Sulciner D.J., Gutkind J.S., [1]Irani K., Goldschmidt-Clermont P.J. and [1]Finkel T.: Regulation of Reactive oxygen species generation in fibroblast by Rac1. Biochem. J.. 318; 379-382, 1996. ([1]National Heart, Lung and Blood Institute, National Institute of Health, Bethesda, MD).

[1]Calderon S.N., [1]Bertha C.M., Gutkind J.S., [1]Xu H., [2]Partilla J.S., [2]Rothman R.B. and [1]Rice K. C. Probes for Narcotic Receptor Mediated Phenomena. Synthesis and Characterization of Optically Pure [^{3}H](+)-4-[(α*R*)-α -((2*S*,5*R*)-4-Propyl-2,5-dimethyl-1-piperazinyl)-3-methoxybenzyl]- N,Ndiethylbenzamide, [^{3}H]SNC121, a Novel High Affinity and Selective Ligand for Delta Opioid Receptors. J. Labeled

Comp. Radiopharm., 38: 347-350, 1996. ([1]Laboratory of Medicinal Chemistry, NIDDK; [2]Addiction Research Center, Baltimore, MD).

[1]Zhang S., Coso O.A., [1]Lee C., Gutkind J.S. and [1]Simonds W.F. Selective activation of effector pathways by brain-specific G protein β5. J. Biol. Chem., 271; 33575-33579, 1996. ([1]National Institute of Diabetes, Digestive and Kidney Diseases, National Institutes of Health)

Frank A. Robey, Ph.D.

[1]Heegaard N. H. N., [2]Heegaard P., [3]Roepstorff P. and Robey, F. A. Heparin Binding sites in human serum amyloid P component. Eur. J. Biochem., 239; 850-856, 1996. ([1]Statens Serum Institute, Copenhagen; [2]Danish Veterinary Laboratory, Copenhagen; [3]Odense University, Denmark)

Robey F. A., Harris-Kelson T., [1]Robert-Guroff M., [2]Batinic D., Ivanov B., [3]Lewis M. and [4]Roller P. A conformational epitope from the C4 region of HIV gp120 that binds to CD4 J. Biol. Chem. 271; 17990-17995, 1996. ([1]National Cancer Institute, National Institutes of Health; [2]Clinic Hospital Center Rebro, Zagreb, Croatia; [3]Biomedical Engineering and Instrumentation Program, National Center for Research Resources, National Institutes of Health; [4]National Cancer Institute, National Institutes of Health)

[1]van der Pluijm G., [1]Vloedgraven H., [1]van der Wee-Pals L., Ivanov B., Robey F., Gehron Robey P., [1]Papapoulos S. and [1]Löwik C. Bone-sialoprotein peptide derivatives are potent inhibitors of breast cancer cell adhesion to bone. Cancer Res., 56; 1948-1955, 1996. ([1]University Hospital, Leiden, The Netherlands)

[1]Pritchett T. and Robey F.A. Capillary zone electrophoresis of proteins, in: CRC Handbook of Capillary Electrophoresis, Landers, J.P., ed. CRC Press, Ann Arbor, MI, in press 1996. ([1]Beckman Instruments, Fullerton, California)

[1]Bernstein E.F., [1]Chen Y.Q., Kopp J.B., Fisher L., [1]Brown D.B., [1]Hahn P.J., Robey F.A., [1]Lakkakorpi J. and [1]Uitto J. Chronic sun-exposure alters the collagen of the superficial dermis: Comparison of sun-protected and photoaged skin by Northern analysis, immunohistochemical staining, and confocal laser scanning microscopy. J. Amer. Acad. Dermatology 34; 209-218, 1996. ([1]Jefferson Medical College, Philadelphia, Pennsylvania)

10. Other
11. Current collaborators

J. Silvio Gutkind, Ph.D.

Dr. John F. Ensley. Molecular basis of head and neck cancer.
(Wayne State University, Detroit, MI)

Dr. Pier Paolo Di Fiore. Characterization of eps8 in epidermal growth factor receptor signaling.
(Department of experimental oncology, European Institute of Oncology, Via Ripamonti 435-20141, Milano, Italy)

Dr. Mariano Barbacid. Transforming pathways activated by the Vav oncogene.
(Department of Molecular Biology, Bristol-Myers Squibb Pharmaceutical Research Institute. Princeton, New Jersey).

Dr. Maggie Zeichner- David. A joint project addressing differentiating pathways in ameloblasts and other cells involved in tooth formation.
(Center for Craniofacial Molecular Biology, University of Southern California, CA.)

Dr. Sarah Spiegel. Role of JNK in apoptosis.
(Georgetown University, Washington DC).

Dr. Shigeru Katamine. Role of intracellular kinase cascades in HTLV-1 infection and AIDS.
(University of Nagasaki. Japan).

Dr. Toru Miki. Search for transforming genes in cancer cells from the head and neck.
(LCMB, NCI, NIH)

Dr. Kenneth Yamada. Signal transduction through integrin receptors.
(LDB, NIDR)

Dr. Betchara Kashar. Jr. Establishment of conditional immortalized cultures of oral epithelial cells from transgenic mouse bearing a temperature sensitive mutant of the SV40 large tumor antigen. (NIDCD, NIH).

Myung Hee Park, Ph.D.

Dr. David R. Davies
(LMB, NIDDK, NIH)

Dr. Der-Ing Liao
(LMB, NIDDK, NIH)

Dr. Soo-Il Chung, Director
(Mogam Biotechnology Research Institute. Yongin. Korea)

Dr. Se-Won Suh
(Seoul National University, Seoul. Korea)

ORAL HEALTH-RELATED OUTSIDE ACTIVITIES SURVEY

None

Oral And Pharyngeal Cancer Branch

Dental Research

1. Invited Talks
2. Sessions Chaired at Professional Meetings.
3. Symposia, Meetings or Conferences Organized
4. Consultant for Universities or Industry
5. Elected Offices
6. Editorial responsibilities other than reviewing manuscripts
7. Professional or Governmental Advisory Capacity
8. Appeared as an invited expert
9. Professional publications with outside co-authors
10. Other
11. Current collaborators

J. Silvio Gutkind, Ph.D.

Dr. John F. Ensley. Molecular basis of head and neck cancer.
(Wayne State University, Detroit, MI)

Dr. Pier Paolo Di Fiore. Characterization of eps8 in epidermal growth factor receptor signaling.
(Department of Experimental Oncology, European Institute of Oncology, Via Ripamonti 435-20141, Milano, Italy)

Dr. Maggie Zeichner- David. A joint project addressing differentiating pathways in ameloblasts and other cells involved in tooth formation.
(Center for Craniofacial Molecular Biology, University of Southern California, CA.)

Dr. Kenneth Yamada. Signal transduction through integrin receptors.
(LDB, NIDR)

Dr. Betchara Kashar, Jr. Establishment of conditional immortalized cultures of oral epithelial cells from transgenic mouse bearing a temperature sensitive mutant of the SV40 large tumor antigen. (NIDCD, NIH).

Pain and Neurosensory Mechanisms

General Basic and Clinical Research; Dental Research

1. Invited Talks

Raymond A. Dionne, D.D.S., Ph.D.

Invited Speaker, American Dental Society of Anesthesiology, April 20, 1996: Pharmacologic strategies for the control of patient anxiety in the dental office, New York

Richard Gracely, Ph.D.

Invited Speaker, International Association for the Study of Pain, Vancouver, Canada, August 1996.

Daniel R. Kenshalo, Ph.D.

Invited Speaker, The role of the somatosensory cortex in pain sensation. Cortical representation of Pain. August 1996, International Association for the Study of Pain, Vancouver, Canada.

Mitchell Max, M.D.

Invited Speaker, "Methodological Challenges in the Study of Chronic Pain," Johns Hopkins University Behavioral Medicine Department, Baltimore, Md.. April, 1996

Invited Plenary Speaker, Midwest Pain Society Annual Meeting, Chicago, Ill., "Recent Advances in the Treatment of Chronic Neuropathic Pain, April, 1996.

Invited Speaker, "Opportunities in Clinical Research in Chronic Pain", Department of Anesthesiology Grand Rounds, Emory University, Atlanta, Ga., June, 1996.

Invited Speaker, "Federal Funding Mechanisms for Studies of New Intrathecal Analgesics," Symposium on Intrathecal Analgesics, Whistler, British Columbia, August, 1996.

Invited Speaker, Symposium on Clinical Trial Methods, Eighth World Congress on Pain, Vancouver, British Columbia, August, 1996.

Invited Speaker, "Recent Research on the Impact of Quality Improvement Initiatives on Pain Treatment Outcomes," Summit on Cancer Pain, American Cancer Society, Reston, Virginia, September, 1996.

Invited Speaker, Quality Improvement Guidelines and Pain Management, Milbank Memorial Fund Meeting on Care at the End of Life, New York, New York, September, 1996.

Invited Plenary Speaker, "Clinical Pain Research in the Next Decade: Opportunities for a Maturing Discipline," Wilbert Fordyce Clinical Investigator Award Address, American Pain Society, Washington, D.C., November, 1996.

2. Sessions Chaired at Professional Meetings

Raymond A. Dionne, D.D.S., Ph.D.

Pharmacology Session, International Association for Dental Research, March 14, 1996.

Richard Gracely, Ph.D.

Measurement of Pain in Humans and Animals, International Association for the Study of Pain, Vancouver, Canada, August, 1996.

Daniel R. Kenshalo, Ph.D.

Measurement of Pain in Animals, Psychophysical methods applied to non-human primates to study pain sensation. In: Measurement of pain in humans and animals, August 1996, International Association for the Study of Pain, Vancouver, Canada.

Mitchell Max, M.D.

Course on Design of Clinical Trials for Pain Treatment, Eighth World Congress on Pain, Vancouver, British Columbia, August, 1996.

Topical Seminar on Antidepressants and Pain Treatment, Eighth World Congress on Pain, Vancouver, British Columbia, August, 1996.

Symposium on Quality Improvement Methods in Changing Pain Management Outcomes, American Pain Society, Washington, D.C., November, 1996.

3. Symposia, Meetings or Conferences Organized

Richard Gracely, Ph.D.

NIH workshop on Vulvodynia, to be held April 2-3, 1997 in Lister Hill Auditorium.

4. Consultant for Universities or Industry

Raymond A. Dionne, D.D.S., Ph.D.

University of Maryland School of Dentistry. Faculty member on training grant in pain mechanisms and treatment (PI, Ronald Dubner).

Richard Gracely, Ph.D.

Consulted with Becton-Dickenson on the design of studies to investigate the efficacy and side effects of transdermal delivery of drugs by electrophoresis.

University of Maryland School of Dentistry. Faculty member on training grant in pain mechanisms and treatment (PI, Ronald Dubner).

Daniel R. Kenshalo, Ph.D.

Thesis committee, Division of Neurobiology, Harvard Medical School, Boston MA.

Mitchell Max, M.D.

Consultant to Johns Hopkins Departments of Anesthesiology and Neurosurgery on NINDS Program Project Award (funded) to compare the efficacy of opioids and tricyclic antidepressants in postherpetic neuralgia, and consultant on new grant application for studies in phantom limb pain.

Consultant to Johns Hopkins Departments of Anesthesiology, Neurosurgery and Physical Medicine on NICHD Program Project Award (funded) to carry out clinical trials of medications in phantom pain and spinal cord injury.

Consultant to University of Washington Dept. of Rehabilitation Medicine on NICHD Program Project application (funded) on spinal cord injury pain treatment.

Consultant on three grant proposals (one funded, two pending) by the University of Pennsylvania Departments of Anesthesia and Neurology on the treatment of pain and symptoms in cancer, and a training grant

in clinical pain research.

Consultant on analgesic development programs to: Syntex/Roche, Hoechst AG, Zambon Laboratories, Glaxo Wellcome, Scirex, Laboratories, UPSA

University of Maryland School of Dentistry. Faculty member on training grant in pain mechanisms and treatment (PI, Ronald Dubner).

Zambon Laboratories. Consultant to program of an OTC analgesic studied for the treatment of dental pain.

Bristol-Myers Products. Consultant to program of an OTC analgesic studied for the treatment of dental pain.

5. Elected Offices

6. Editorial Responsibilities Other Than Reviewing Manuscripts

Raymond A. Dionne, D.D.S., Ph.D.

Co-editor, Proceedings of the Temporomandibular Disorders Technology Assessment Conference, Oral Surg, Oral Med, Oral Pathol, Endo

Co-editor, Proceedings of the Scientific Frontiers Symposium, Compendium Continuing Education in Dentistry

Richard Gracely, Ph.D.

Editorial Board, Elsevier book series on Pain Research and Clinical Management.

Mitchell Max, M.D.

Associate Editor of Pain, the Journal of Pain and Symptom Management, and Pain Forum

7. Professional or Government Advisory Capacity

Raymond A. Dionne, D.D.S., Ph.D.

Consultant, Departments of Periodontics and Endodontics, National Naval Dental School, Bethesda, MD

Richard Gracely, Ph.D.

Appointed as a Clinical Associate Professor, Department of Anesthesia, Georgetown University Medical Center, Georgetown University in 1992 to advise on scientific research in the Department.

Mitchell Max, M.D.

Member of Institute of Medicine Committee on Opportunities in Drug Abuse Research, 1995-1996.

Testimony on three occasions at the Institute of Medicine Committee on Care at the End of Life

8. Appeared as an Invited Expert

Michael J. Iadarola, Ph.D.

Interviews with Time Magazine and U.S. News and World Report, both of which are currently in progress.

Mitchell Max, M.D.

Feature story on pain research on ABC Evening news.

M.A. Ruda, Ph.D.

Interviewed on ABC Nightly News with Peter Jennings for feature article on Pain.

Interviewed by Time Magazine for feature article on Pain.

9. Professional Publications with Outside Co-authors

Raymond A. Dionne, D.D.S., Ph.D.

Ehrich DG, Lundgren JP, Dionne RA, Nicoll BK, Hutter JW: Comparison of oral triazolam, diazepam, and placebo as outpatient premedication for endodontic patients. J Endodontics, in press.

Hargreaves KM, Swift JQ, Gordon SM, Dionne RA: Orofacial inflammation and pain, In, Anesthesia: Biologic Frontiers, Biebuyck, Lynch, Maxe, Saidman, Yaksh, Zapol (Eds.), Raven Press, New York, in press.

Richard Gracely, Ph.D.

Gracely R.H. and Naliboff, B.D. Measurement of Pain Sensation, in L. Kruger, (ed) Handbook of Perception and Cognition: Somatosensory Systems, Raven Press, New York, 1996, pp243-313. (Dr. Naliboff was at the VA Medical Center in Sepulveda CA. and is now at the VA Wadsworth Medical Center, Los Angeles CA.).

Harden, R.N., Gracely, R.H., Carter, T., Warner, G. The placebo effect in acute headache management: Ketorolac, Meperidine and saline in the emergency department. Headache, 36:352-6, 1996. (Dr. Harden is from the Center for Pain Studies, Rehabilitation Institute of Chicago, the remaining coauthors are from the Medical University of South Carolina, Charleston, SC.)

Lenz F.A., Gracely R.H., Zirh T.A., Leopold D.A., Rowland L.H., Dougherty P.M. A human thalmaic nucleus mediating taste and multiple other sensations related to ingestive behavior. J. Neurophysiology, in press. (The coauthors are from the Department of Neurosurgery, Johns Hopkins Hospital, Baltimore, MD.)

Michael J. Iadarola, Ph.D.

Eriksson M., Ceccatelli S., Uvnas-Moberg S., Iadarola M. and Hokfelt T.: Expression of Fos-related antigens, oxytocin, dynorphin and galanin in the paraventricular and supraoptic nuclei of lactating rats. Neuroendocrinology 63:356-367, 1996.

Bing G., McMillian M., Kim H., Pennypacker K., Feng Z., Qi Q., Kong L-Y, Iadarola M. and Hong J.: Long-term expression of the 35 kDa Fos-related antigen FRA in rat brain after kainic acid treatment. Neuroscience 73:1159-1174, 1996.

Deutch A.Y., Lewis D.A., Whitehead R.E., Elsworth J.D., Iadarla M.J., Redmond D.E. Jr. and Roth R.H.: The effects of D2 dopamine receptor antagonists on Fos protein expression in the striatal complex and entorhinal cortex of the non-human primate. Synapse 23:182-191, 1996.

Kajander K.C., Madsen A.M., Iadarola M.J., Draisci G. and Wakisaka S: Fos-like immunoreactivity increases in the lumbar spinal cord after a chronic construction injury of the sciatic nerve. Neurosci, Letts 206:9-12, 1996.

Doucet J-P, Nakabeppu Y., Bedard P.J., Hope B.T., Nestler E.J., Jasmin B.J., Chen J-S, Iadarola M.J., St-Jean M., Wigle N., Blanchet P., Grondin R. and Robertson G.S.: Chronic alterations in dopaminergic 'neurotransmission produce a persistent elevation of deltaFosB-like protein(s) in both rodent and primate striatum. Eur J Neurosci (in press).

Mitchell Max, M.D.

Casey KL (Univ. Mich.), Gonzales GR (Mayo Clinic), Max MB, Portenoy RK (Cornell), Price DD (Med. Coll. Va.), Rowbotham M (UCSF). Course on pain. American Academy of Neurology Continuum, 1996, in press.

Max MB, Portenoy RK (Cornell). Pain research: Designing clinical trials for palliative care. In: Doyle D, Hanks GW, MacDonald N, eds. Oxford Textbook of Palliative Medicine. Oxford: Oxford University Press, 1993, 77-86; 1996, in press.

Max MB, Houde RW (Cornell), Wallenstein S (Cornell), Walco G (Temple), Dampier C (Temple), Shapiro B (Jefferson Med Coll). Assessment of pain and analgesia in clinical trials in sickle cell disease. J Pain Symptom Management, 1996, in press.

Koob GF (Scripps), Nestler EJ (Yale), Max MB. Neural substrates of drug abuse. In: Bonnie RJ, Fulco C, eds. Opportunities in Drug Abuse Research: Institute of Medicine Report. Washington, DC: National Academy Press, 1996, pp. 3-1 to 3-30.

Nelson KA, Park KM, Robinovitz E, Tsigos C (NICHD), Max MB. High-dose oral dextromethorphan in diabetic neuropathy pain and post-herpetic neuralgia: a double-blind, placebo controlled study. Neurology, 1996, in press.

Liu M (Univ. Pennsylvania), Max MB, Parada S, Rowan JS, Bennett GJ. Capsaicin-evoked mechanical allodynia, but not pinprick hyperalgesia, is mediated by the sympathetic nervous system in humans. J Neuroscience, 1996;16:7331-7335.

Iadarola MJ, Berman KF (NIMH), Zeffiro TA (NIMH), Byas-Smith MG, Gracely RH, Max MB, Benenett GJ. Activation of multiple neural networks during acute pain and allodynia evoked by capsaicin assessed with positron emission tomography. Brain, 1997, in press.

M.A. Ruda, Ph.D.

M. De Le_n[1], A.A. Welcher[2], R.H. Nahin[3], Y. Liu[1], M.A. Ruda[3], E.M. Shooter[4], and C.A. Molina[1] Fatty Acid Binding Protein Is Induced in Neurons of the Dorsal Root Ganglia After Peripheral Nerve Injury. [1]Center for Molecular Biology and Gene Therapy and Department of Physiology, Loma Linda University, Loma Linda, [2]Amgen, Inc., Thousand Oaks, [4]Department of Neurobiology, Stanford University School of Medicine, Stanford California, [3]Neurobiology and Anesthesia Branch, NIDR, National Institutes of Health, Maryland(R.H.N., M.A.R.)

Ren, K.[1] and Ruda, M.A.[2], (1996), Descending modulation of Fos expression after persistent peripheral inflammation. *NeuroReport* 7:2186-2190. [2]Neurobiology and Anesthesia Branch, National Institutes of Dental Research, National Institutes of Health, Bethesda, MD., 20892, USA. [1]Department of Oral and Craniofacial Biological Sciences, University of Maryland Dental School, Baltimore, MD. USA

10. Other

Raymond A. Dionne, D.D.S., Ph.D.

Lecture, University of Maryland School of Dentistry: Antipyretic Analgesics,

October 16, 1996

Lecture, National Naval Dental Center: Nitrous Oxide, November 6, 1996

Richard Gracely, Ph.D.

Member of the International Association for the Study of Pain (IASP) committee developing a Core Curriculum on Pain for Psychologists.

Member of Program committee for year 2000 meeting of the International Association for the Study of Pain (IASP) in Vienna, Austria.
Chairman of American Pain Society committee; The Information Technology Committee.

Mitchell Max, M.D.

Investigator, "Placebo-Controlled Clinical Trial of Acupuncture, Amitriptyline, and Their Combination for Relief of HIV-Related Neuropathy Pain," Community Programs for Clinical Research on AIDS, Division of AIDS, NIAID.

Investigator, "Mexiletine and Amitriptyline in HIV-Related Neuropathy Pain," AIDS Clinical Trials Group, Division of AIDS, NIAID.

11. Outside Collaborators

M.A. Ruda, Ph.D.

Dr. Donna Hammond, Department of Anesthesia and Critical Care, University of Chicago.

Dr. Ken Hargreaves, Department of Endodonics, University of Minnesota, School of Dentistry.

Gene Targeting Core Facility

General Basic and Clinical Research; Dental Research

1. Invited Talks
   Ashok B. Kulkarni, Ph.D.
   Invited Speaker, British Society of Allergy and Clinical Immunology, 1996. TGF-β1 Null mouse: Isoform specific functions, Manchester, UK.
2. Sessions Chaired at Professional Meetings
   Ashok B. Kulkarni, Ph.D.
   NCRR, NIH Scientific and Technical Review Board on Biomedical and Behavioral Research Facilities, 1996.
3. Symposia, Meetings or Conferences Organized
4. Consultant for Universities or Industry
5. Elected Offices
6. Editorial Responsibilities Other Than Reviewing Manuscripts
7. Professional or Government Advisory Capacity
8. Appeared as an Invited Expert
   Ashok B. Kulkarni, Ph.D.
   Science, interviewed and quoted in the News on brain cortical development.
9. Professional Publications with Outside Co-authors
   Ashok B. Kulkarni, Ph.D.
   Francis-McCartney, N., Mizel, D., Redman, R., Frazier-Jessen, M., Panek, R.B., Kulkarni, A.B., Ward, J.M. McCartney, J.B., Wahl, S.M. 1996 Autoimmune Sjogren-like lesions in salivary glands of TGF-β1 deficient mice are inhibited by adhesion-blocking peptides. J. Immunol. 157:1306-1312.
   Ohshima, T., Ward, J.M., Huh, C.G., Longenecker, G., Veeranna, Pant, H., Brady, R.O., Martin, L., Kulkarni, A.B. 1996 Targeted disruption of Cdk5 gene results in abnormal corticogenesis, neuronal pathology and perinatal death. Proc. Natl. Acad. Sci. USA. 94:2540-2544.
   Letterio, J.J., Geiser, A.G., Kulkarni, A.B., Dang, H., Kong, L., Nakabayashi, T., Mackall, G.L., Gress, R.E., Roberts, A.B. 1996 Autoimmunity associated with TGF-β1 deficiency in mice is dependent on MHC class II antigen expression.
10. Other
    Ashok B. Kulkarni, Ph.D.
    Host for Howard Hughes Institute Summer Fellow.
    Host for three summer students.
    Sponsored two researchers on sabbatical. Dr. Rena D'Souza and Gulshan Sunavala, Dental Branch, University of Texas Health Science Center, Houston, Texas.
    Speaker at Cytokine Interest Group Symposium on TGF-β.
    Provided TGF-β1 knockout mice and reagents to several outside researchers in the U.S, U.K. and France.
11. Outside Collaborators

Matrix Metalloproteinases Unit

General Basic and Clinical Research; Dental Research

1. Invited Talks

   H. Birkedal-Hansen

   Sixth International Confenerence on Microcirculation. Munich, Germany, "Matrix Metalloproteinases: Agents of Environmental Change." August, 1996; Invited speaker

   Israeli Division of International Association for Dental Research, Kiryat Anavim, Israel, "Matrix Metalloproteinases: Agents of Environmental Change." June, 1996; Invited speaker

   Israeli Division of International Association for Dental Research, Kiryat Anavim, Israel, "Frontiers of Science in Dentistry." June, 1996; Invited speaker

   Lombardi Cancer Center, Georgetown University Medical School, "Matrix Metalloproteinases: Agents of Environmental Change." May, 1996; Invited speaker

   Danish Dental Association, Annual Continuing Education Course: "Influence of Basic Research on the Pactice of Dentistry." Pindborg Memorial Lecture, Copenhagen, Denmark, March, 1996; Invited speaker

   University of California, San Francisco: Research Center in Oral Biology Annual Research Day. "Frontiers of Science in Dentistry." January, 1996; Invited speaker

2. Sessions Chaired at Professional Meeting

   International Research Conference: Inhibitors of Metalloproteinases in Development and Disease: TIMP '96; "Overview of TIMP Structure-Function Relationships." September, 1996; Session Chair

3. Symposia, Meetings or Conferences Organized

   H. Birkedal-Hansen,

   International Association for Dental Research, Symposium Co-organizer
   "NIDR-Cell Interactions in Development" San Francisco, 1996

4. Consultant for Universities or Industry

   H. Birkedal-Hansen

   Panel Discussant, UCSF Alumni Society Annual Meeting
   Moderator, Research Center in Oral Biology's Research Symposium UCSF
   Member, Scientific Advisory Board, Center for Clinical and Basic Research, Ballerup, Denmark
   Adjunct Professor, University of Maryland, Baltimore College of Dental Surgery
   Fellows Committee, American Association for Dental Research

5. Elected Offices

6. Editorial Responsibilities Other than Reviewing Manuscripts

H. Birkedal Hansen

Editorial Board, Journal of Dental Research
Editorial Board, European Journal of Oral Sciences
Editorial Board, Oral Diseases

7. Professional or Governmental Advisory Capacity

H. Birkedal-Hansen

Member, NIH Senior Biomedical Research Service Policy Board
Member, NIH Committee on the Recruitment and Career Development of Clinical Investigators

8. Appeared as Invited Expert

9. Professional Publications with Outside Co-authors

Galazka, G., Windsor, L. J., Birkedal-Hansen, H. and Engler, J. A.: APMA (4-aminophenylmercuric Acetate) Activation of stromelysin-1 is not dependent on Cysteine-75 in the propeptide. *Biochemistry,* 35: 11221-11227 (1996)

10. Other

H. Birkedal-Hansen

Chair, 1996 NIH Research Festival

Matrix Metalloproteinases Unit

General Basic And Clinical Research; Dental Research

1. Invited Talks

Larry M. Wahl, Ph.D.

1996 Invited speaker, symposium on "Molecular Targets of Vascular Disease", Experimental Biology, Washington, DC.

1996 Speaker for symposium on "The Roles of Matrix Metalloproteinases in Cellular Functions", ASBMB/ASIP/AAI Joint Meeting, New Orleans, LA.

2. Sessions chaired at Professional Meetings

Larry M. Wahl, Ph.D.

1996 Co-Chair for symposium on "The Roles of Matrix Metalloproteinases in Cellular Functions", ASBMB/ASIP/AAI Joint Meeting, New Orleans, LA.

9. Professional publications with outside co-authors

Larry M. Wahl, Ph.D.

Lafrenie, R. M., L. M. Wahl, J. S. Epstein*, I. K. Hewlett*, K. M. Yamada, and S. Dhawan*. 1996. HIV-1-Tat modulates the function of monocytes and alters their interactions with microvessel endothelial cells: A mechanism of HIV pathogenesis. J. Immunol. 156:1638-1645.
(*Food and Drug Administration)

Lafrenie, R. M., L. M. Wahl, J. S. Epstein*, I. K. Hewlett*, K. M. Yamada, and S. Dhawan*. 1996. HIV-1-Tat protein promotes chemotaxis and invasive behavior by monocytes. J. Immunol. 157:974-977.
(*Food and Drug Administration)

Mertz, P. M., M. L. Corcoran, K. M. McCluskey, Y. Zhang, H. L. Wong, M. T. Lotze, D. L. DeWitt*, S. M. Wahl, and L. M. Wahl. 1996 Suppression of prostaglandin H synthase-2 in human monocytes by in vitro or in vivo administration of interleukin 4. Cell. Immunol. 173:252-260.
(*Michigan State University)

Karp, C. L.[•1], M. Wysocka[•2], L. M. Wahl, J. M. Ahearn[•1], P. J. Cuomo[•1], B. Sherry[•3], G. Trinchieri[•2], and D. E. Griffin[•1]. 1996. Inhibition of monocyte interleukin-12 production by viral and complement ligands for CD46. Science 273:228-231.
([•1]Johns Hopkins University)
([•2]Wistar Institute of Anatomy and Biology)
([•3]Picower Institute of Medical Research)

10. Other

Larry M. Wahl, Ph.D.

Gift Fund: Mayo Foundation for research pertaining to the mechanisms involved in periprosthetic bone loss.

Molecular Structural Biology Unit

General Basic and Clinical Research; Dental Research

1. Invited Talks
   Dennis A. Torchia, Ph.D.
   ASBMB Annual Meeting "Structure, Dynamics and Function of HIV Protease from NMR Spectroscopy." New Orleans, LA. 1996
   Symposium on NMR for the Next 50 Years, "NMR Studies of the Structure and Dynamics of HIV-1 Protease Inhibitor Complexes." Bethesda, MD. 1996
   Cornell University, Department of Biochemistry. "NMR Studies of the Structure and Function of the HIV-Protease and the Cell Attachment Domain of Fibronectin." Ithaca, NY. 1996
2. Sessions Chaired at Professional Meetings
   Dennis A. Torchia, Ph.D.
   XVIIth International Congress on Magnetic Resonance in Biological Systems, Protein Dynamics from Spin Relaxtion Measurements." Keystone, CO. 1996
3. Symposia, Meetings or Conferences Organized
4. Consultant for Universities or Industry
5. Elected Offices
6. Editoral Responsibilities Other than Reviewing Manuscript
   Dennis A. Torchia, Ph.D.
   Associate Editor, *Proteins, Structure, Function Genetics.*
7. Professional or Governmental Advisory Capacity
   Member, Search Committee for Tenure Track NMR Spectroscopist, National Heart Lung and Blood Institute, NIH. 1996
8. Appeard as an Invited Expert
9. Professional Publications with Outside Co-authors
   Dennis A. Torchia, Ph.D.
   Yamazaki, T., Hinck, A.P., Wang, Y.-X., Nicholson, L.K., Torchia, D.A., Wingfield, P.T., Stahl, S.J., Kaufman, J.D., [1]Chang, C.-H., [1]Domaille, P.J., [1]Lam, P.Y.S. Three-dimensional solution structure of the HIV-1 protease complexed with DMP323, a novel cyclic urea-type inhibitor, determined by nuclear magnetic resonance spectroscopy. Protein Science 1996, 5:495-506. ([1]Dept. of Chem. and Phys. Sciences, The DuPont Merck Pharmaceutical Co., Wilmington, DE.)
   Hinck, A.P., Archer, S.J., Qian, S.W., Roberts, A.B., Sporn, M.B., [1]Weatherbee, J.A., [1]Tsang, M.L.-S., [1]Lucas, R., [1]Zhang, B.-L., [1]Wenker, J., Torchia, D.A. Transforming growth factor-beta 1: three-dimensional structure in solution and comparison with the

X-ray structure of TGF-beta 2. Biochemistry 1996 35:8517-8534. ([1]R&D Systems, Minneapolis, MN.)

Copie, V., [1]Battles, J.A., [1]Schwab, J.M., Torchia, D.A. Secondary structure of beta-hydroxydecanoyl thiol ester dehydrase, a 39 kDa protein, derived from H-alpha, C-alpha, C-beta and CO signal assignments and the Chemical-Shift Index: comparison with the crystal structure. J. Biomol. NMR 1996, 7:335-340. ([1]Dept. of Medicinal Chemistry and Pharmacology, Purdue Univ, West Lafayette, IN.)

Wang, Y.-X.,Freedberg, D.I., Yamazaki, T., Wingfield, P.T., Stahl, S.J., Kaufman, J.D., [1]Kiso, Y., Torchia, D.A. Solution NMR evidence that the HIV-1 protease catalytic aspartyl groups have different ionization states in the complex formed with the asymmetric drug KNI-272. Biochemistry 1996, 35: 9945-9950. ([1]Kyoto Pharmaceutical University, Kyoto 607, Japan)

Wang, Y.-X., Freedberg, D.I., Grzesiek, S., Torchia, D.A, Wingfield, P.T., Stahl, S.J., Kaufman, J.D., [1]Chang, C.-H., [1]Hodge, C.N. Mapping hydration water molecules in the HIV-1 protease-DMP323 complex in solution by NMR spectroscopy. Biochemistry 1996, 35: 12694-12704. ([1]Dept. of Chem. and Phys. Sciences, The DuPont Merck Pharmaceutical Co., Wilmington, DE.)

Wang, Y.-X., Freedberg, D.I., Wingfield, P.T., Stahl, S.J., Kaufman, J.D., [1]Kiso, Y., [2]Bhat, T. N., [2]Erickson, J. W., Torchia, D.A. Bound water molecules at the interface between the HIV-1 protease and a potent inhibitor, KNI-272, determined by NMR. J. Am. Chem. Soc., 1996, 118: 12287-12290. ([1]Kyoto Pharmaceutical University, Kyoto 607, Japan, [2]NCI-Frederick Cancer Research and Development Center, SAIC-Frederick, Frederick, MD.)

Pelton, J.G., Torchia, D.A., [1]Remington, S. J., [1]Murphy, K.P., [2]Meadow, N.D., [2]Roseman, S. Structures of active site histidine mutants of IIIGlc, a major signal-transducing protein in Escherichia coli: Effects on the mechanisms of regulation and phosphoryl transfer. J. Biol. Chem., 1996, 271: 33446-33456. (Institute of Molecular Biology and Department of Physics, University of Oregon, Eugene, OR, [2]Department of Biology and the McCollumPratt Institute, The Johns Hipkins University, Baltimore, MD.)

10. Other
11. Outside Collaborators